Exhibit No. LEG-1

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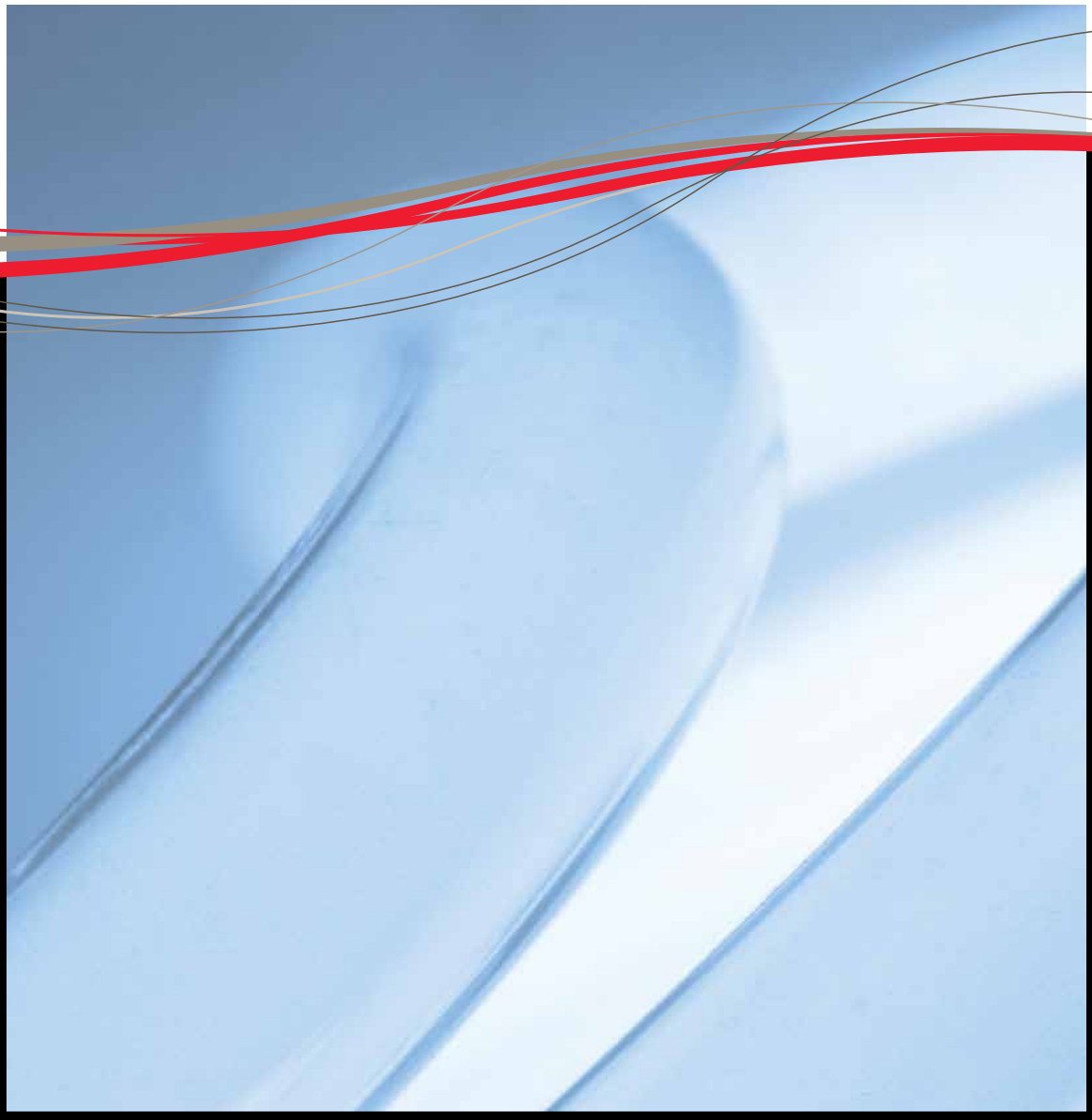


2012/2013 Demand-Side Management Plan

Electric and Natural Gas

Public Service Company of Colorado
August 2011
Docket No. 11A-631EG

2012/2013 CO DSM Plan Table of Contents

Executive Summary

Public Service Company of Colorado ("Public Service" or the "Company") submits this combined electric and natural gas 2012/2013 Biennial Demand-Side Management Plan ("Plan") to the Colorado Public Utilities Commission ("Commission"). In this filing, Public Service proposes an annual DSM Plan designed to achieve energy savings of approximately 330.5 GWh in electric and 413,471 Dth in natural gas in 2012 and 356 GWh in electric and 406,727 Dth in natural gas in 2013, at proposed costs of $88.6 million and $98.7 million, respectively. The Company is also seeking approval of demand reduction goals totaling 97 MW and 89.2 MW respectively in 2012 and 2013, including the impact on demand from energy efficiency programs and the incremental demand response expected from its Saver's Switch, interruptible and third-party demand response programs in each of these two years. The Company respectfully requests that the Commission approve its plan to guide the Company's Colorado electric and natural gas energy efficiency and load management activities for 2012 and 2013. Table 1a provides a summary of the energy savings targets and demand savings associated with the overall portfolio of energy efficiency products as well as incremental demand savings from Saver's Switch, ISOC and third-party demand response programs we are proposing for 2012 and 2013. Table 1a also includes the budgets for the energy efficiency products, Saver's Switch and the incremental marketing and administration for the ISOC product. Table 1a includes the summary of the budgets and goals that the Company is asking approval for in this Plan.

For informational purposes, Table 1b summarizes the total controllable load expected from the Saver's Switch, Interruptible Service Option Credit ("ISOC") and third-party demand response program in 2012 and 2013. Table 1b also presents, for the Commission's information, the total costs of these programs, including the credits paid to ISOC participants and the expected payments under the third-party demand response contract.

Table 1a: Public Service's 2012/2013 Biennial DSM Plan Budgets and Targeted Energy and Demand Savings

Proposed Products	Expenditures ($)	Energy Savings (Gen kWh or Dth)	Incremental Demand Savings (Gen kW)
2012			
Electric Efficiency	55,947,038	321,290,721	59,255
Saver's Switch	13,326,964	697,183	20,865
ISOC Marketing and Admin.	31,495	0	12,700
Third-Party Demand Response	0	0	3,500
Electric Indirect and Pilots	6,702,097	8,560,821	684
Total 2012 Electric DSM	**$76,007,594**	**330,548,725**	**97,004**
Gas Conservation	10,672,926	389,713	---
Gas Indirect and Pilots	1,949,157	23,758	---
Total 2012 Gas DSM	**$12,622,083**	**413,471**	**---**
2012 Total	**$88,629,677**	**330,548,725 kWh 413,471 Dth**	**97,004 kW**

2013			
Electric Conservation	60,393,808	326,745,824	61,411
Saver's Switch	14,075,362	697,183	20,865
ISOC Marketing and Admin.	32,581	0	1,300
Third-Party Demand Response	0	0	0
Electric Indirect and Pilots	11,502,160	28,556,993	5,621
Total 2013 Electric DSM	**$86,003,911**	**356,000,000**	**89,197**
Gas Conservation	10,718,800	382,969	---
Gas Indirect and Pilots	1,986,561	23,758	---
Total 2013 Gas DSM	**$12,705,361**	**406,727**	**---**
2013 Total	**$98,709,272**	**356,000,000 kWh 406,727 Dth**	**89,197 kW**
2012/2013 Biennium Total	**$187,338,949**	**686,548,225 kWh 820,198 Dth**	**186,201 kW**

Table 1b: Total Controllable Load (2012 & 2013)

2012		Utility Spend		
	Net Generator kW	Credits	Marketing and Admin.	Total
ISOC	213,700	$25,905,903	$484,384	$26,390,287
Third-Party Demand Response	46,875		$3,008,400	$3,008,400
Saver's Switch	178,775	$6,664,680	$6,662,284	$13,326,964
TOTAL	**439,350**	**$32,570,583**	**$10,155,068**	**$42,725,651**

2013		Utility Spend		
	Net Generator kW	Credits	Marketing and Admin.	Total
ISOC	215,000	$25,974,345	$485,740	$26,460,085
Third-Party Demand Response	46,875		$3,008,400	$3,008,400
Saver's Switch	198,037	$7,397,280	$6,678,082	$14,075,362
TOTAL	**459,912**	**$33,371,625**	**$10,172,222**	**$43,543,847**

The Company is filing this combined electric and natural gas 2012/2013 Biennial Demand-Side Management Plan in accordance with the Commission's Decision Nos. C11-0442 and C11-0645 issued in Docket No. 10A-554EG and Rules 4750 to 4760 of the Commission's Rules Regulating Gas Utilities and Pipeline Operators (the Gas DSM Rules). This biennial plan reflects a continuation and evolution of the gas and electric DSM products that the Company first initiated during 2009 and 2010. Many of these programs continued on into 2011, and through the 60-day notice process first

put in place as part of the 2009-2010 DSM Plan, our DSM portfolio of products has continued to evolve within the parameters set forth in the Stipulation approved in Docket No. 08A-366EG ("2009/2010 Plan Stipulation" or "Stipulation"). The Company intends to continue for 2012 and 2013 the same processes that were first agreed to in the Stipulation and that have been in effect during 2009 and 2010.

Strategic Policy Issues Filing (Docket No. 10A-554EG)

On August 10, 2010, Public Service filed a Verified Application for Approval of a Number of Strategic Issues relating to Its DSM Plan, Including Long-Term Electric Energy Savings Goals and Incentives. The Application proposed new electric savings goals along with a new electric incentive mechanism. In addition, the application requested various other changes related to its gas and electric energy efficiency DSM programs, including: an increase in the non-energy benefits adder that is applicable to low-income programs; guidance regarding various DSM program concepts; and the ability to claim savings for "influenced savings" associated with custom projects which the Company facilitates, but which ultimately do not qualify for rebates do to the payback period involved. With respect to program administration, Public Service requested to continue under the general framework established by the Settlement Agreement approved in Docket No. 08A-366EG concerning the Company's 2009-2010 DSM Plan. Hearings for the Application were held early in 2011 on February 28th and March 1st and 2nd. Following the hearing the Commission issued on April 26, 2011, Decision Nos. C11-0442 approving Public Service's Application with modifications. The Commission then issued Decision No. C11-0645 on June 14, 2011, addressing Public Service's Application for Rehearing, Reargument, or Reconsideration and granting the Company's Motion for a one-month extension to file its 2012/2013 Biennial Plan to August 1, 2011. This plan filing captures the Commission's various decisions that have been issued in Docket No. 10A-554EG.

Modifications in 2012 and 2013

While the majority of the DSM products included in this Plan are the same as those that have been implemented since 2009, products have naturally evolved since this time to remain cost-effective and adapt to the marketplace. These product "evolutions," or changes, have been documented through the 60-Day Notice process[1], first established in the 2009/2010 Plan Stipulation approved in Docket No. 08A-366EG to afford the Company discretion to make changes to Plans in order to achieve the greatest level of energy savings. The Plan also reflects additional noteworthy changes as described below:

- Updated avoided costs and technical assumptions to reflect more current data.
- Added new measures to 2012/13 products, including:
    - Added electronically commutated motors for commercial refrigeration applications to the Motor and Drive Efficiency product.
    - Added Light Emitting Diode measures to Home Lighting and Recycling

[1] Per the Settlement Agreement, 60/90-Day Notices are required for any proposal to add a new DSM product, reduce rebate levels, adopt new or discontinue existing measures, or change technical assumptions or eligibility requirements. Details of 60-Day Notices are posted at: http://www.xcelenergy.com/About_Us/Rates_&_Regulations/Regulatory_Filings/CO_DSM.

  - Added evaporative cooling and high efficiency air conditioning measures to Home Performance With Energy Star®

- Added a new pilot, Electric Vehicle Charging Station Pilot
- Relative to the 2011 filed budgets and goals and due to performance in 2011, we have decreased budgets and goals for the following products: Compressed Air, Cooling Efficiency, Custom Efficiency, New Construction and Segment Efficiency.
- With the increase in overall energy savings goals ordered by the Commission in Docket No. 10A-554EG for 2012 and 2013, we have increased goals and budgets for Data Center Efficiency, Energy Management Systems, Lighting Efficiency, Motor and Drive Efficiency, Process Efficiency, Recommissioning, Self Directed Custom Efficiency, Small Business Lighting, Standard Offer, Energy Star® New Homes, Evaporative Cooling, High Efficiency Air Conditioning, Home Lighting and Recycling, Home Performance with Energy Star®, Insulation Rebate, Refrigerator Recycling, Saver's Switch and School Education Kits.
- Due to concerns regarding the reduced cost-effectiveness of many gas DSM products given low gas commodity prices, the lack of significant system benefits from gas DSM, and the rate impact on non-participating customers we have made the following changes to allow for continuation of these products in the near term:
  - Reduced rebate levels for the following gas products: Custom Efficiency, Energy Management Systems, Heating Efficiency, New Construction, Recommissioning, Segment Efficiency, Standard Offer and Energy Star® New Homes.
  - Discontinued the following: Process Efficiency (natural gas component), Energy Efficient Showerheads, School Education Kits (natural gas component).
  - Reduced administrative budgets for most natural gas direct and indirect programs.
- Adopted internal guidelines that will minimize non-cost effective measures and products, but recognizes the necessity for exceptions (such as bundled/whole-house type products).
  - Assessed cost-effectiveness based on the roll-up of existing products to a higher level consistent with the way cost-effectiveness was assessed for 2011. This will effect both electric and gas and thus there will be six direct programs which should meet the requirements of the modified total resource cost (MTRC) test >=1.0:
    * Business Electric
    * Business Gas
    * Residential Electric
    * Residential Gas
    * Low Income Electric
    * Low Income Gas
  - Decreased our natural gas expenditures to approximately $12.6 million (from $15.8 million in 2011) while increasing savings targets to approximately 413,471Dth for 2012, and $12.7 million and 406,727 Dth, for 2013.
  - Continued to identify and implement administrative cost efficiencies as evidenced by a 29% increase in energy savings targets with only a 10.9% increase in administrative budgets (2012 compared to 2011 filed budgets). The Company has also eliminated certain non-cost-effective measures as listed below in order to help the DSM Programs remain cost-effective overall.

- Removed screw in compact fluorescent lights from Lighting Efficiency and Small Business Lighting due to Energy Independence and Security Act increasing standards related to incandescent bulbs and because Public Service believes these applications have become standard practice for business customers.
- Removed rebates for T-12 to T-8 lighting upgrades in 2013 due to Department of Energy rulemaking raising minimum baselines to T-8 lamps.
- Removed Energy Star Retailer Incentive due to a TRC of .49 forecasted in 2012.

History of DSM Activity in Colorado

Beginning in 1996, Public Service has entered into several regulatory settlements involving demand-side management in conjunction with its integrated resource/least-cost planning process. The following paragraphs describe those settlements:

- In the 1996 Integrated Resource Plan Settlement Agreement (Decision C98-1042, Docket No. 97A-297E), the Company committed up to $10M for DSM over four years through two bid processes. The first focused on residential air conditioning load control and lighting for commercial customers (Bid 2000) and the second followed the completion of the Bid 2000 program.
- In the 1999 Integrated Resource Plan DSM Stipulation and Settlement Agreement (Decision C00-1057, Docket No. 00A-008E), the Company committed to use its best efforts to acquire 124 MW of cost-effective DSM resources through the 1999 IRP Resource Acquisition Period ending December 31, 2005. The Company was authorized to spend no more than $75 million (Year 2000 dollars) to obtain the 124 MW of DSM. This amount included total capital costs and operating expenses incurred by the Company, but excluded expenses for the natural gas Energy Savings Partners (E$P) low-income weatherization program. The 1999 Agreement identified target savings by customer class and program type.
- As part of the 2003 Least-Cost Resource Plan Settlement Agreement (Decision C05-0049, Docket Nos. 04A-214E, 04A-215E, 04A-216E), the Company committed to obtain 320 MW and 800 GWh of cost-effective conservation for $196 million (year 2005 dollars) between 2006 and 2013.
- House Bill 07-1037, *Concerning Measures to Promote Energy Efficiency, and Making an Appropriation Therefore,* was passed by the Colorado General Assembly and signed into law by Governor Ritter in 2007, and codified in relevant part at §§ 40-1-102(5), (6) and (7), C.R.S., as well as §§ 40-3.2-101 and 104, C.R.S. That bill establishes that:

> … cost-effective natural gas and electricity demand-side management programs will save money for consumers and utilities and protect Colorado's environment. The general assembly further finds, determines, and declares that providing funding mechanisms to encourage Colorado's public utilities to reduce emissions or air pollutants and to increase energy efficiency are matters of statewide concern and that that public interest is served by providing such funding mechanisms. Such efforts will result in an improvement in the quality of life and health of Colorado citizens

and an increase in the attractiveness of Colorado as a place to live and conduct business[2].

Section 40-3.2-104, C.R.S. further charges the Commission to:

> …establish energy savings and peak demand reduction goals to be achieved by an investor-owned electric utility, taking into account the utility's cost-effective DSM potential, the need for electricity resources, the benefits of DSM investments, and other factors as determined by the commission. The energy savings and peak demand reduction goals shall be at least five percent of the utility's retail system peak demand measured in megawatts in the base year and at lease five percent of the utility's retail energy sales measured in megawatt-hours in the base year. The base year shall be 2006. The goals shall be met in 2018, counting savings in 2018 from DSM measures installed starting in 2006. The commission may establish interim goals and may revise the goals as it deems appropriate.[3]

- On June 27, 2007, the Commission issued Decision No. C07-0562 opening Docket No. 07I-251G to investigate issues associated with the natural gas DSM requirements contained in § 40-3.2-103, C.R.S. which directs the Commission to implement rules to establish specific natural gas DSM requirements for jurisdictional natural gas utilities. Through an informal workshop and two rounds of comments on proposed rules, the Commission issued Decision No. C08-0248 adopting the Rules regarding Natural Gas Demand-side Management, pursuant to House Bill 07-1037, enacted as §40-3.2-103.
- On October 31, 2007, Public Service filed its Application for Authorization to Implement an Enhanced Demand Side Management (DSM) Program and to Revise its Demand Side Management Cost Adjustment Mechanism to Include Current Cost Recovery and Incentives (Application). Public Service requested approval to implement an enhanced electric DSM program and to revise its demand-side management cost adjustment mechanism (DSMCA) to include current cost recovery and incentives designed to reward Public Service for successfully implementing cost-effective electric DSM programs and measures. On June 5, 2008, the Commission issued its Decision No. C08-0560 approving, in part, the Enhanced DSM Plan proposed by the Company and establishing annual electric energy savings goals for Public Service from 2009 through 2020. As part of Decision No. C08-0560, the Commission also endorsed the Company's proposal to file biennial DSM plans and to combine gas and electric DSM plans in one filing, thereby waiving the gas DSM rules' requirement for the Company to file triennial natural gas DSM plans.
- In compliance with Decision No. C08-0560, Public Service filed its first combined gas and electric 2009/10 DSM Plan on August 11, 2008. In this Plan, the Company proposed a comprehensive portfolio of electric and natural gas demand-side management programs for 2009 and 2010 as well as annual budgets and annual goals for the natural gas DSM programs. The Commission initiated Docket No. 08A-366EG to consider the 2009/2010 DSM Plan filing and numerous parties intervened. However, prior to hearings, the majority of the Intervenors, the Commission Staff, and the Company entered into a Stipulation and Settlement Agreement. The Settling Parties recommended approval of the Plan subject to certain amendments and changes to specific DSM programs agreed to and described in Appendix A to the Agreement.

[2] § 40-3.2-101, C.R.S.

[3] § 40-3.2-104(2).

The Settling Parties further agreed to recommend to the Commission that the Company be afforded the discretion to modify the plan during the course of the plan period and agreed to a process for providing notice of plan changes to interested stakeholders.

- The Commission accepted the 2009/2010 Plan Stipulation in Decision R08-1243 issued on November 28, 2008. As agreed to in the Stipulation, in compliance with Decision No. R08-1243, on February 20, 2009, the Company filed its 2009/2010 DSM Plan Update, including all changes that had been agreed to in the Stipulation as well as corrections to certain errors made in the original plan filing. On May 1, 2009, the Company filed a further amendment to the Plan.
- On July 1, 2010, Public Service filed its Verified Application for approval of its proposed 2011 DSM Plan and continuation of the terms of the Stipulation and Settlement Agreement entered into and approved by the Commission in Docket No. 08A-366EG, except to the extent that those terms are specific to the Company's 2009/2010 Biennial DSM Plan. On October 18, 2010, a Stipulation and Settlement Agreement along with the Joint Motion to Approve Stipulation and Settlement Agreement were filed by Public Service on its own behalf and on behalf of Staff, OCC, SWEEP, Boulder, and EEBC. On December 16, 2010, the Stipulation and Settlement Agreement was approved by the Commission.

The following figures 1 and 2 below show Public Service's electric and natural gas savings and expenditures over the past ten years.

Figure 1: Historical Electric Program Savings and Expenditures

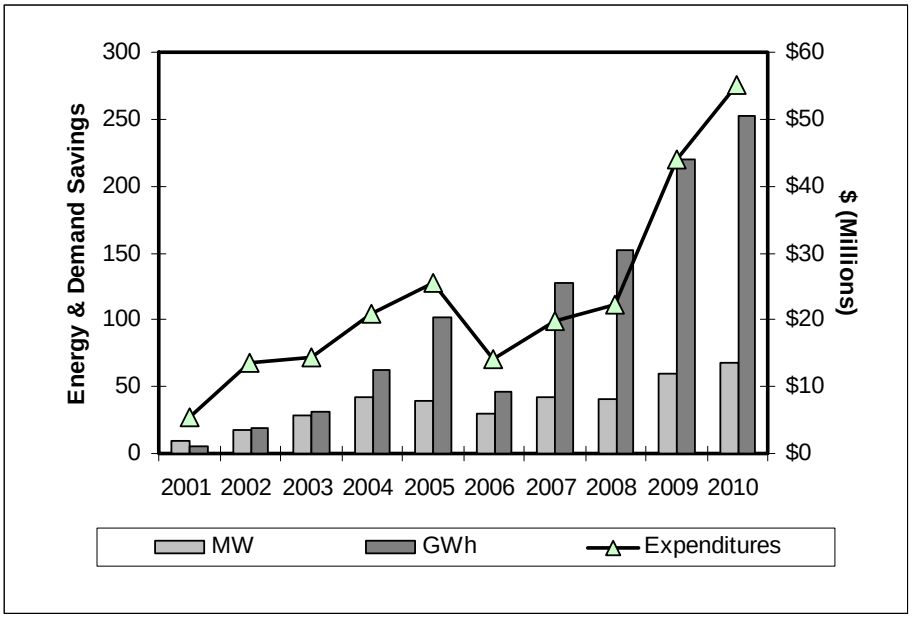
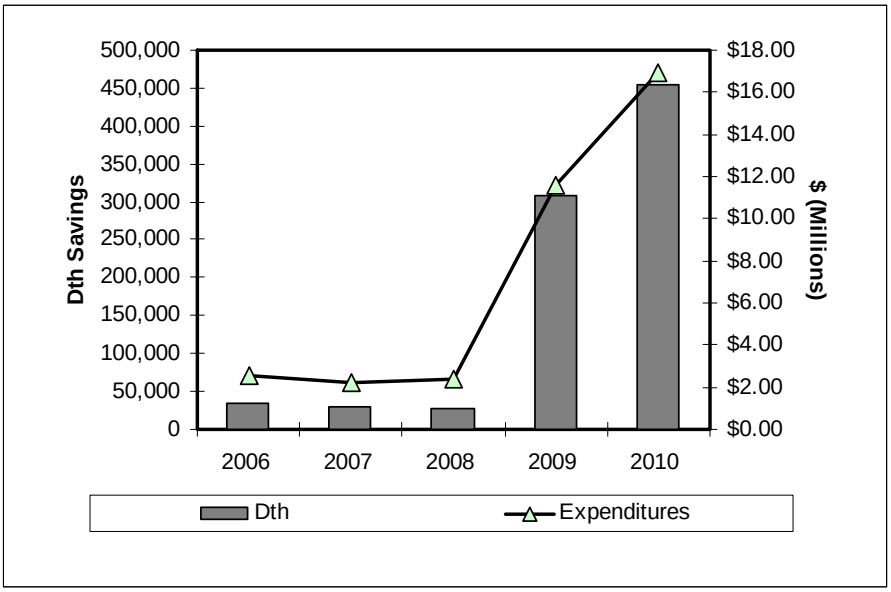


Figure 2: Historical Natural Gas Program Savings and Expenditures



Goals By Program

For the 2012/2013 Plan, Public Service continues from 2011 a full portfolio of electric and natural gas DSM products to serve all customer segments. Public Service will market its energy efficiency products to each customer segment based on the number of customers, relative size of each customer, and amount of conservation potential at a customer site.

The goals for these programs are summarized below.

Business Electric and Gas Programs

Energy efficiency sales to the Business Programs are achieved through Public Service's account managers, end-use equipment vendors, and energy service companies (ESCOs), as well as our Business Solutions Center. The Company's total proposed goals and budgets for the Business Program in the 2012/2013 biennium include:

Business Electric Program

- Electric budget $83,728,196; Electric savings 73,851 Gen kW, and 412,871,039 Gen kWh
- Electric participants 12,991

Business Gas Program

- Gas budget $3,133,773; gas savings 199,711 Dth
- Gas participants 581

Although economies of scale enable this business customer segment to provide the lowest cost DSM per unit of energy saved, business DSM is some of the most difficult to achieve over time. This is the case because business customers tend to require very short paybacks on investments and do not readily respond to traditional mass-market appeals. Further, on the gas side, the majority of large customers, who present some of the largest energy efficiency potential, are transport

customers who will neither pay into the Demand-Side Management Cost Adjustment, nor be eligible to participate in the program offerings.

Residential Electric and Gas Programs

Public Service has over 1.16 million electric and 1.20 million natural gas customers in its Residential market in Colorado. The Residential Program includes single-family homes, townhomes, apartments and condominiums. The Residential Program also includes the load management Saver's Switch product. Public Service developed its Plan to recognize that the residential market requires choices of conservation opportunities that accommodate various lifestyles, convenient participation, and information to make wise energy choices presented in useable and understandable forms and formats. The Company's total proposed goals and budgets for the Residential Programs during the 2012/2013 biennium include the following:

Residential Electric

- Electric budget $54,187,093; electric savings 86,396 Gen kW; 215,232,769 Gen kWh
- Electric participants 1,185,597[4]

Residential Gas Program

- Gas budget $11,254,463; gas savings 459,318 Dth
- Gas participants 40,749

Low-Income Electric and Gas Programs

The primary objective of the Low-Income Program is to reduce energy consumption in low-income customers' homes and thereby reduce low-income customer bills. The Company's total proposed goals and budgets for the Low-Income Program during 2012/2013 biennium include the following:

Low-Income Electric Program

- Electric budget $5,827,883; Electric savings 2,148 Gen kW; 21,327,101 Gen kWh
- Electric participants 23,414

Low-Income Gas Program

- Gas budget $7,003,490; gas savings 113,653 Dth
- Gas participants 21,575

Indirect Products and Services and Pilots

The Indirect Products and Services support the direct products or are considered to be a pilot. The Education/Market Transformation area includes four products: Business Energy Analysis, Residential Consumer Education, Business Consumer Education, and Residential Home Energy Audits. The Planning and Research area includes five services: DSM Planning and Administration, Program Evaluations, Measurement and Verification, DSM Market Research, and DSM Product Development. While the majority of the Indirect Products and Services are indirect and do not have savings goals; the DSM Product Development offering contains three pilot products; one of which proposes electric and gas savings. Public Service proposes the following Indirect electric and gas budget and savings:

Indirect Electric Products & Services

- Electric budget $18,204,257; electric savings 6,305 Gen kW; 37,117,814 Gen kWh

[4] Participants for Home Lighting and Recycling are presented in bulbs – 522,500 (2012), 535,000 (2013).

- Electric participants

Indirect Gas Products & Services

- Gas budget $3,935,718; gas savings 47,516 Dth
- Gas participants 174,186

Competitive Acquisition of DSM Resources – Third-Party Providers

As a result of the Commission's orders in Docket No. 10A-554EG, the Strategic Issues Docket, Public Service is required to identify the specific products that are open to competitive bidding for implementation. Additionally, Public Service is to set forth the specific criteria by which these bids will be evaluated.[5] Public Service evaluates all bids in two phases, the Pre-qualification phase and the Bid Evaluation phase. The Pre-qualification phase ensures that request for proposal (RFP) respondents meet minimum requirements to conduct business on Xcel Energy's behalf. Respondents are evaluated on Safety, Financial Health, Terms & Conditions Adoption and Prior Experience. These are also factors in the Bid Evaluation phase but have lower weightings due to the initial evaluation. This helps to ensure business risk to the company is as low as possible.

The Bid Evaluation phase is based upon up to eight factors and is the phase where the risk of the supplier performing is weighed against the cost to perform. These factors and their weighting are detailed below. Weighting may be adjusted based on specific business need.

Table 2a: Bid Evaluation Factors and Weighting

Evaluation Factors	Explanation	Weighting
Cost	Cost transparency, total cost of ownership, bid amount	45% - 65%
Ability To Perform	Prior experience, feasible plan, quality of project team, ability to meet schedule	30% - 50%
Safety	Historical safety record	5% - 15%
Terms & Conditions	Adherence to Xcel Energy standards	5% - 10%
Financial Health	Pre-qualifier in RFP	Pre-qual only
Diversity	Firm's commitment to diversity and inclusion	0% - 15%
Green Business Practices	Firm's commitment to environmental sustainability	0% - 15%
Project Specific Needs	Dependent on project. Examples: field presence in jurisdiction, expertise with specific market segment, unique or proprietary software, etc.	0% - 15%

[5] In the matter of the application of Public Service Company of Colorado for approval of a number of strategic issues relating to its DSM plan, including long-term electric energy savings goals, and incentives. Docket No. 10A-554EG, Decision No. C11-0442, paragraph 81.

The table below identifies all products that have a third-party implementer and further identifies which of these products will have new contracts being bid in 2012 or 2013. It also identifies the type of contract each product has - either sole source or a competitive bid contract. Contracts are sole sourced for a variety of reasons. Typically the contracted party has unique access to market players or proprietary tools that another firm would not have as is the case with Computer Efficiency, Single Family Weatherization and Multi Family Weatherization. Going forward, Public Service will be tracking, as required in Decision No. C11-0645 (Docket No. 10A-554EG), the administrative costs that are incurred when conducting requests for proposals and when managing the winning third-party providers of DSM services.[6]

Table 2b: 2011 Products with Third-Party Implementers

Third-Party Products Not being bid in 2012/2013	**Expected RFPs for 2012 (Product)**	**Expected RFPs for 2013 (Product)**	**Type of Contract – Competitive Bid or Sole Sourced**
	Segment Efficiency		Competitive Bid
	New Construction		Competitive Bid
Energy Star New Homes			Competitive Bid (2011)
Low Income Kits			Sole Sourced
Home Performance w/Energy Star			Competitive Bid (2011)
Residential Home Energy Audit			Competitive Bid (2011)
Single Family Weatherization			Sole Sourced
Multi Family Weatherization			Sole Sourced
Non-Profit Energy Efficiency			Sole Sourced
School Kits			Competitive Bid (2011)
Refrigerator Recycling			Sole Sourced
Energy Feedback Pilot			Sole Sourced
Computer Efficiency			Sole Sourced
Small Business Lighting			Competitive Bid (2011)

Major Initiatives: Market Transformation and Customer Education

In this Plan, Public Service is continuing to place increasing emphasis on programs and services that help to redefine the energy efficiency marketplace through market transformation and customer education. The Company believes that market transformation and customer education are some of the least-cost ways to influence customer decisions and behaviors for the long term.

[6] Decision C11-0645, Docket 10A-554EG, page5, paragraph 14.

Public Service defines market transformation as marketing strategies that result in a permanent decrease in energy usage by inducing changes either in the product supply chain or in the behavior of the end-user. Often these structural and behavioral changes in the marketplace result in an increased or earlier adoption of energy efficient technologies and energy efficient practices that remain even after the program stimulus is removed.

The Company is continuing to offer additional Market Transformation pilot products in this 2012/2013 Plan, as well as continuing to offer the Market Transformation products that were first introduced in the 2009/2010 biennium. These Market Transformation pilots (which have been introduced either in the 2011 Plan or through the 60-Day Notice process) include an Energy Feedback Pilot, and an In-Home Smart Devices Pilot. The continuing Market Transformation products or pilots from 2009/10 include the Business Energy Analysis, Residential Home Energy Audits, Residential and Business Consumer Education (formerly called Customer Behavioral Change for Residential and Business Products). All of the market transformation products, except Energy Feedback, are indirect, meaning that they produce no direct energy savings;.

In addition to these programs, Public Service has interwoven market transformation into many of its direct-impact programs by offering rebates on a variety of efficiency measures in order to make the efficient products more popular and more available in the marketplace, even if not cost effective on their own. By offering rebates for efficient measures, Public Service hopes to create a demand for the high efficiency products, thereby driving down their overall cost.

Based on the Commission's decision in Docket No. 10A-554EG, if Public Service seeks to implement a market transformation program for which it will claim savings to count against its energy savings or demand reduction goals, the Company must detail in its DSM plan filings how the measurement and verification of such savings will be accomplished. Furthermore, Public Service was directed to justify in its DSM plans how its market transformation efforts are linked to such credits for savings. For market transformation activities for which the Company will not attempt to measure savings, such programs will have an assumed TRC value of one consistent with current practices.

With this Plan, Public Service continues its commitment to transforming the energy efficiency market through new construction. The Company is offering new construction rebate and design assistance programs for all of its customer segments. Customers will receive rebates for construction that exceeds local codes and standards.

Public Service also continues to offer products dedicated to customer education, such as Business Energy Analysis and Residential Home Energy Audits. These are both indirect products that provide customers with specific feedback and potential actions regarding their own homes and buildings. In addition, many of the other product offerings contained in this Plan have an educational component.

Stakeholders

Public Service believes that successful implementation of its Plan will be the result of active participation of its many stakeholders. These stakeholders include the Commission, the Governor's Energy Office, other state agencies, local governments, environmental groups, external consulting groups, efficient equipment manufacturers, distributors and vendors, installation contractors, and

customer advocates. Each of the Company's products offers its own opportunities for stakeholder involvement and feedback. In addition, Public Service will continue to host its quarterly DSM Roundtable meetings as a forum for open dialogue and discussion.

Pilot Products

In Docket No. 07A-420E, the Commission distinguished pilot products from existing or continuing products. These would be products that are testing unproven delivery methods, markets, or technologies. For any of these reasons, pilot products may not necessarily achieve a MTRC test ratio greater than one. In Decision No. C08-0560, the Commission allowed for such products under these special circumstances to achieve a MTRC test ratio of less than one. For this Plan, Public Service offers three pilots that are fully described in the Indirect Product Development section of this Plan, including the Company's overall pilot requirements. These pilots include:

- Energy Feedback Pilot
- In-Home Smart Devices Pilot
- Electric Vehicle Charging Station Pilot

For any pilot that does not pass the MTRC test at the end of the year, Public Service will explain the causes and provide recommendations on the pilot's continuation in the annual status report. For pilots that are also considered Market Transformation and are not claiming savings in 2012 or 2013, the Commission Decision allows a presumptive TRC of 1.0 for purposes of calculating the financial incentive. For 2012 and 2013, the Company proposes that this practice be continued and that a presumptive TRC of 1.0 be applied to the In-Home Smart Device Pilot

Document Layout

This document has eight major sections, organized primarily by customer segment: Executive Summary, Business Products, Residential Products, Low-Income Products, Indirect Products and Services, Benefit-Cost Analyses, Planning Assumptions, and Appendices. Each of these sections is summarized below:

- Executive Summary – provides a high-level overview of the strategic direction of the overall 2012/2013 Biennial DSM Plan; provides program and product level goals and budgets, and provides budgets by cost category[7].
- Business, Residential, Low-Income, and Indirect Gas and Electric Programs – detail the specific products and goals associated with each program.
- Planning Assumptions – displays the planning assumptions used to calculate the energy and demand savings of every measure included in the Plan.
- Benefit-Cost Analyses – provides each Program's benefit-cost analysis results.
- Appendices – presents a list of acronyms, the portfolio of products ranking, the avoided costs used, description of the budget categories, and the technical reference manual summary (deemed savings electronic file).

[7] Budget categories are described in Appendix D.

Table 3a: Public Service's 2012 Electric DSM Program/Product Budgets and Goals

2012	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Business Program					
Compressed Air Efficiency	73	$838,191	620	4,137,552	2.25
Computer Efficiency	2,666	$500,637	1,004	7,342,230	2.87
Cooling Efficiency	301	$2,976,091	2,121	7,033,292	1.52
Custom Efficiency	34	$1,903,248	717	7,607,232	2.03
Data Center Efficiency	12	$935,135	506	6,410,823	3.70
Energy Management Systems	56	$1,541,500	243	8,495,894	1.70
Heating Efficiency					
Lighting Efficiency	1,140	$8,388,395	12,040	62,917,758	2.78
Motor & Drive Efficiency	1,589	$5,433,060	3,458	21,145,535	2.13
New Construction	91	$6,385,394	8,147	24,457,692	2.20
Process Efficiency	12	$2,017,096	782	11,029,631	2.26
Recommissioning	85	$1,319,172	330	5,925,060	1.23
Segment Efficiency	60	$1,185,732	347	2,585,240	1.38
Self-Directed Custom Efficiency	13	$1,908,790	1,957	8,975,070	1.79
Small Business Lighting	165	$3,011,058	2,108	11,328,366	1.82
Standard Offer	12	$1,668,234	1,287	9,138,595	1.14
Business Program Total	**6,309**	**$40,011,734**	**35,667**	**198,529,968**	**2.17**
Residential Program					
ENERGY STAR New Homes	2,580	$532,721	89	1,543,624	1.30
Evaporative Cooling Rebates	4,298	$2,282,325	6,042	3,771,471	9.82
Heating System Rebates					
High Efficiency Air Conditioning	2,010	$2,405,385	2,871	2,372,400	1.31
Home Lighting & Recycling	522,500	$5,440,714	11,962	95,564,399	3.59
Home Performance with ENERGY STAR	200	$268,341	295	307,243	3.14
Insulation Rebate	3,120	$99,505	540	428,993	3.65
Refrigerator Recycling	1,800	$492,459	173	1,274,406	1.40
School Education Kits	30,000	$1,538,568	535	5,809,487	1.45
Water Heater Rebate	200	$100,100	59	517,787	1.37
Total	**566,708**	**$13,160,118**	**22,567**	**111,589,811**	**4.82**
Load Management Program - Residential Saver's Switch	**19,500**	**$13,326,964**	**20,865**	**697,183**	**3.97**
Residential Program Total	**586,208**	**$26,487,082**	**43,431**	**112,286,994**	**4.42**
Low-Income Program					
Energy Savings Kit	10,000	$647,664	301	5,195,061	2.64
Multi-Family Weatherization	12	$350,669	96	1,100,000	1.63
Non-Profit Energy Efficiency	25	$572,599	282	1,003,630	1.82
Single-Family Weatherization	2,545	$1,204,255	342	3,872,250	1.41
Low-Income Program Total	**12,582**	**$2,775,187**	**1,021**	**11,170,941**	**1.74**
Indirect Products & Services					
Education/Market Transformation					
Business Energy Analysis	400	$992,648			
Consumer Education - Business	1,385	$153,765			
Consumer Education - Residential	34,000	$1,232,674			
Residential Home Energy Audit	2,175	$635,574			
Education/Market Transformation Total	**37,960**	**$3,014,661**			
Planning and Research					
DSM Planning & Administration		$287,559			
Program Evaluations		$384,312			
Measurement & Verification		$78,097			
DSM Market Research		$274,912			
DSM Product Development		$1,022,558			
Energy Feedback Pilot	50,000	$379,400	684	8,560,821	1.36
In-Home Smart Device Pilot	600	$1,240,597	0	0	
Electric Vehicle Charging Station Pilot	0	$20,000			
DSM Product Development Total	**50,600**	**$2,662,555**	**684**	**8,560,821**	
Planning and Research Total	**50,600**	**$3,687,436**	**684**	**8,560,821**	
Indirect Products & Services Total	**88,560**	**$6,702,097**	**684**	**8,560,821**	
PORTFOLIO TOTAL	**693,660**	**$75,976,099**	**80,804**	**330,548,725**	**2.51**
Product Development - Future Unidentified					
PORTFOLIO TOTAL w Future Unidentified				**330,548,725**	
ISOC		**$31,495**	**12,700**	**0**	**1.90**
EnerNoc		**$0**	**3,500**	**0**	**N/A**
PORTFOLIO TOTAL w Future Unidentified & ISOC / EnerNoc Incremental		**$76,007,594**	**97,004**	**330,548,725**	
Energy Efficiency Total		**$62,649,135**	**59,939**	**329,851,542**	
Load Management Total		**$13,358,459**	**37,065**	**697,183**	

Table 3b: Public Service's 2012 Gas DSM Program/Product Budgets and Goals

2012	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Business Program						
Compressed Air Efficiency						
Computer Efficiency						
Cooling Efficiency						
Custom Efficiency	5	$221,520	6,294	28,414	$80,198	1.19
Data Center Efficiency						
Energy Management Systems	16	$37,604	2,889	76,824	$143,231	1.85
Heating Efficiency	208	$743,394	30,885	41,545	$284,915	1.12
Lighting Efficiency						
Motor & Drive Efficiency						
New Construction	45	$522,920	58,037	110,986	$551,287	1.12
Process Efficiency						
Recommissioning	8	$51,333	2,261	44,054	$225,285	4.30
Segment Efficiency	9	$20,241	2,171	107,234	$57,038	1.72
Self-Directed Custom Efficiency						
Small Business Lighting						
Standard Offer	6	$30,036	1,754	58,408	$2,036,982	20.86
Business Program Total	**297**	**$1,627,048**	**104,291**	**64,098**	**$3,378,936**	**1.43**
Residential Program						
ENERGY STAR New Homes	2,580	$2,591,808	72,521	27,981	$1,605,837	1.26
Evaporative Cooling Rebates						
Heating System Rebates	6,500	$944,327	53,514	56,669	$1,534,523	1.44
High Efficiency Air Conditioning						
Home Lighting & Recycling						
Home Performance with ENERGY STAR	200	$250,814	7,770	30,978	$126,408	1.21
Insulation Rebate	8,000	$1,435,679	81,533	56,790	$1,987,942	1.26
Refrigerator Recycling						
School Education Kits						
Water Heater Rebate	3,070	$341,828	11,816	34,568	-$808	1.00
Total	**20,350**	**$5,564,456**	**227,154**	**40,822**	**$5,253,903**	**1.28**
Load Management Program - Residential Saver's Switch						
Residential Program Total	**20,350**	**$5,564,456**	**227,154**	**40,822**	**$5,253,903**	**1.28**
Low-Income Program						
Energy Savings Kit	9,998	$466,944	16,476	35,285	$1,590,990	4.09
Multi-Family Weatherization	12	$438,503	6,788	15,480	$9,846	1.01
Non-Profit Energy Efficiency	25	$628,006	6,970	11,099	$3,314	1.00
Single-Family Weatherization	1,627	$1,947,969	28,034	14,391	$806,233	1.23
Low-Income Program Total	**11,662**	**$3,481,422**	**58,268**	**16,737**	**$2,410,383**	**1.40**
Indirect Products & Services						
Education/Market Transformation						
Business Energy Analysis	100	$159,182				
Consumer Education - Business	593	$50,002				
Consumer Education - Residential	34,000	$250,557				
Residential Home Energy Audit	2,400	$517,030				
Education/Market Transformation Total	**37,093**	**$976,771**				
Planning and Research						
DSM Planning & Administration		$103,538				
Program Evaluations		$254,626				
Measurement & Verification		$14,010				
DSM Market Research		$258,736				
DSM Product Development		$246,619				
Energy Feedback Pilot	50,000	$94,856	23,758	250,464	$42,319	1.45
In-Home Smart Device Pilot	0	$0	0			
Electric Vehicle Charging Station Pilot						
DSM Product Development Total	**50,000**	**$341,475**	**23,758**	**69,575**	**-$204,300**	
Planning and Research Total	**50,000**	**$972,385**	**23,758**	**24,433**	**-$835,211**	
Indirect Products & Services Total	**87,093**	**$1,949,157**	**23,758**	**12,189**	**-$1,563,582**	
PORTFOLIO TOTAL	**119,402**	**$12,622,083**	**413,471**	**32,758**	**$9,479,639**	**1.27**
Product Development - Future Unidentified						
PORTFOLIO TOTAL w Future Unidentified						
ISOC						
EnerNoc						
PORTFOLIO TOTAL w Future Unidentified & ISOC / EnerNoc Incremental						
Energy Efficiency Total						
Load Management Total						

Table 3c: Public Service's 2013 Electric DSM Program/Product Budgets and Goals

2013	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Business Program					
Compressed Air Efficiency	73	$888,648	620	4,137,552	2.26
Computer Efficiency	2,816	$564,924	1,074	7,849,377	2.71
Cooling Efficiency	304	$3,125,756	2,131	7,466,289	1.55
Custom Efficiency	38	$2,044,473	825	8,748,317	2.16
Data Center Efficiency	18	$1,166,224	755	9,138,385	4.54
Energy Management Systems	62	$1,657,636	269	9,406,168	1.77
Heating Efficiency					
Lighting Efficiency	981	$8,530,227	10,880	58,957,958	2.69
Motor & Drive Efficiency	1,924	$5,883,811	3,860	23,994,123	2.22
New Construction	74	$7,299,374	9,808	24,790,163	2.42
Process Efficiency	15	$2,569,383	1,228	17,332,277	2.57
Recommissioning	84	$1,227,650	328	5,868,657	1.31
Segment Efficiency	73	$1,269,669	554	4,164,250	1.82
Self-Directed Custom Efficiency	13	$1,914,342	1,957	8,975,070	1.83
Small Business Lighting	195	$3,938,056	2,609	14,373,890	1.88
Standard Offer	12	$1,636,288	1,287	9,138,595	1.17
Business Program Total	**6,682**	**$43,716,462**	**38,184**	**214,341,071**	**2.27**
Residential Program					
ENERGY STAR New Homes	2,629	$548,054	97	1,615,423	1.34
Evaporative Cooling Rebates	4,630	$2,515,410	6,550	4,086,155	9.62
Heating System Rebates					
High Efficiency Air Conditioning	2,010	$2,415,130	2,871	2,372,400	1.33
Home Lighting & Recycling	535,000	$5,549,253	10,975	87,186,502	3.35
Home Performance with ENERGY STAR	300	$328,344	442	451,624	3.90
Insulation Rebate	3,120	$99,505	540	428,993	3.73
Refrigerator Recycling	2,000	$530,121	144	1,061,042	1.04
School Education Kits	30,000	$1,538,732	422	4,528,665	1.24
Water Heater Rebate	200	$100,100	59	517,787	1.42
Residential Program Energy Efficiency Total	**579,889**	**$13,624,650**	**22,100**	**102,248,592**	**4.65**
Load Management Program - Residential Saver's Switch	**19,500**	**$14,075,362**	**20,865**	**697,183**	**3.88**
Residential Program Total	**599,389**	**$27,700,011**	**42,965**	**102,945,775**	**4.28**
Low-Income Program					
Energy Savings Kit	8,250	$510,957	194	3,497,334	2.20
Multi-Family Weatherization	12	$389,446	112	1,283,333	1.73
Non-Profit Energy Efficiency	25	$930,248	506	1,800,234	1.96
Single-Family Weatherization	2,545	$1,222,045	314	3,575,259	1.34
Low-Income Program Total	**10,832**	**$3,052,696**	**1,127**	**10,156,160**	**1.70**
Indirect Products & Services					
Education/Market Transformation					
Business Energy Analysis	400	$1,029,449			
Consumer Education - Business	1,385	$153,765			
Consumer Education - Residential	34,000	$1,232,674			
Residential Home Energy Audit	2,175	$581,677			
Education/Market Transformation Total	**37,960**	**$2,997,565**			
Planning and Research					
DSM Planning & Administration	0	$305,838			
Program Evaluations	0	$596,873			
Measurement & Verification	0	$102,223			
DSM Market Research	0	$263,011			
DSM Product Development	0	$1,031,536			
Energy Feedback Pilot	50,000	$361,048	684	8,560,821	1.51
In-Home Smart Device Pilot	0	$983,906	0	0	
Electric Vehicle Charging Station Pilot	0	$20,000			
DSM Product Development Total	**50,600**	**$2,396,489**	**684**	**8,560,821**	
Planning and Research Total	**50,600**	**$3,664,434**	**684**	**8,560,821**	
Indirect Products & Services Total	**88,560**	**$6,661,999**	**684**	**8,560,821**	
PORTFOLIO TOTAL	**705,463**	**$81,131,169**	**82,960**	**336,003,828**	**2.55**
Product Development - Future Unidentified		**$4,840,161**	**4,937**	**19,996,172**	
PORTFOLIO TOTAL w Future Unidentified		**$85,971,329**	**87,897**	**356,000,000**	
ISOC		**$32,581**	**1,300**	**0**	**1.85**
EnerNoc		**$0**	**0**	**0**	**N/A**
PORTFOLIO TOTAL w Future Unidentified & ISOC / EnerNoc Incremental		**$86,003,910**	**89,197**	**356,000,000**	
Energy Efficiency Total		**$71,895,968**	**67,033**	**355,302,817**	
Load Management Total		**$14,107,943**	**22,165**	**697,183**	

Table 3d: Public Service's 2013 Gas DSM Program/Product Budgets and Goals

2013	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Business Program						
Compressed Air Efficiency						
Computer Efficiency						
Cooling Efficiency						
Custom Efficiency	5	$232,361	6,778	29,172	$113,622	1.25
Data Center Efficiency						
Energy Management Systems	17	$38,195	3,069	80,361	$162,126	1.92
Heating Efficiency	208	$746,839	30,885	41,354	$365,945	1.16
Lighting Efficiency						
Motor & Drive Efficiency						
New Construction	31	$388,165	48,501	124,950	$3,503	1.00
Process Efficiency						
Recommissioning	8	$48,047	2,261	47,067	$233,040	4.59
Segment Efficiency	9	$22,540	2,171	96,296	$60,180	1.74
Self-Directed Custom Efficiency						
Small Business Lighting						
Standard Offer	6	$30,578	1,754	57,374	$2,041,581	20.80
Business Program Total	**284**	**$1,506,725**	**95,420**	**63,329**	**$2,979,997**	**1.72**
Residential Program						
ENERGY STAR New Homes	2,629	$2,638,304	73,357	27,805	$1,861,196	1.30
Evaporative Cooling Rebates						
Heating System Rebates	6,500	$945,667	53,514	56,589	$1,704,355	1.49
High Efficiency Air Conditioning						
Home Lighting & Recycling						
Home Performance with ENERGY STAR	300	$326,542	11,672	35,744	$275,005	1.32
Insulation Rebate	8,000	$1,437,066	81,533	56,736	$2,251,244	1.29
Refrigerator Recycling						
School Education Kits						
Water Heater Rebate	2,970	$342,428	12,088	35,300	$94,643	1.08
Residential Program Energy Efficiency Total	**20,399**	**$5,690,007**	**232,164**	**40,802**	**$6,186,443**	**1.32**
Load Management Program - Residential Saver's Switch						
Residential Program Total	**20,399**	**$5,690,007**	**232,164**	**40,802**	**$6,186,443**	**1.32**
Low-Income Program						
Energy Savings Kit	8,249	$494,467	13,593	27,490	$1,402,244	3.62
Multi-Family Weatherization	12	$439,248	6,788	15,454	$30,615	1.04
Non-Profit Energy Efficiency	25	$628,334	6,970	11,093	$28,765	1.02
Single-Family Weatherization	1,627	$1,960,019	28,034	14,303	$903,636	1.25
Low-Income Program Total	**9,913**	**$3,522,068**	**55,385**	**15,725**	**$2,365,260**	**1.39**
Indirect Products & Services						
Education/Market Transformation						
Business Energy Analysis	100	$161,658				
Consumer Education - Business	593	$50,002				
Consumer Education - Residential	34,000	$250,557				
Residential Home Energy Audit	2,400	$522,618				
Education/Market Transformation Total	**37,093**	**$984,835**				
Planning and Research						
DSM Planning & Administration		$117,300				
Program Evaluations		$267,182				
Measurement & Verification		$25,850				
DSM Market Research		$246,028				
DSM Product Development		$255,106				
Energy Feedback Pilot	50,000	$90,260	23,758	263,217	$56,910	1.63
In-Home Smart Device Pilot	0	$0	0			
Electric Vehicle Charging Station Pilot						
DSM Product Development Total	**50,000**	**$345,366**	**23,758**	**68,791**	**-$198,197**	
Planning and Research Total	**50,000**	**$1,001,726**	**23,758**	**23,717**	**-$854,556**	
Indirect Products & Services Total	**87,093**	**$1,986,561**	**23,758**	**11,959**	**-$1,590,991**	
PORTFOLIO TOTAL	**117,689**	**$12,705,361**	**406,727**	**32,012**	**$9,940,709**	**1.31**
Product Development - Future Unidentified						
PORTFOLIO TOTAL w Future Unidentified						
ISOC						
EnerNoc						
PORTFOLIO TOTAL w Future Unidentified & ISOC / EnerNoc Incremental						
Energy Efficiency Total						
Load Management Total						

Table 4a: Public Service's 2012 Electric DSM Program/Product Costs by Category

2012	Program Planning & Design	Administration & Program Delivery	Advertising/ Promotion/ Customer Ed	Participant Rebates and Incentives	Equipment & Installation	Measurement and Verification	Total
Business Program							
Compressed Air Efficiency	$54,500	$185,923	$107,901	$462,506	$0	$27,361	$838,191
Computer Efficiency	$1,545	$417,052	$20,840	$42,000	$0	$19,200	$500,637
Cooling Efficiency	$85,837	$380,445	$297,393	$2,183,616	$0	$28,800	$2,976,091
Custom Efficiency	$228,899	$765,434	$367,351	$491,564	$0	$50,000	$1,903,248
Data Center Efficiency	$65,400	$101,202	$235,546	$507,987	$0	$25,000	$935,135
Energy Management Systems	$25,887	$345,057	$170,197	$936,789	$0	$63,569	$1,541,500
Heating Efficiency							
Lighting Efficiency	$113,087	$1,182,447	$435,225	$6,417,456	$0	$240,180	$8,388,395
Motor & Drive Efficiency	$43,600	$534,496	$394,654	$4,297,155	$0	$163,155	$5,433,060
New Construction	$25,624	$2,537,294	$233,097	$3,301,378	$0	$288,000	$6,385,394
Process Efficiency	$29,975	$866,769	$33,177	$1,007,175	$0	$80,000	$2,017,096
Recommissioning	$24,525	$232,780	$252,774	$799,093	$0	$10,000	$1,319,172
Segment Efficiency	$0	$457,562	$156,892	$471,288	$0	$99,990	$1,185,732
Self-Directed Custom Efficiency	$16,450	$138,732	$17,488	$1,736,120	$0	$0	$1,908,790
Small Business Lighting	$1,362	$1,813,072	$147,332	$990,600	$0	$58,692	$3,011,058
Standard Offer	$34,062	$177,636	$39,001	$1,381,535	$0	$36,000	$1,668,234
Business Program Total	**$750,754**	**$10,135,902**	**$2,908,868**	**$25,026,262**	**$0**	**$1,189,947**	**$40,011,734**
Residential Program							
ENERGY STAR New Homes	$9,537	$135,854	$18,513	$163,704	$0	$205,113	$532,721
Evaporative Cooling Rebates	$4,087	$372,226	$276,230	$1,537,550	$0	$92,232	$2,282,325
Heating System Rebates							
High Efficiency Air Conditioning	$6,812	$305,303	$375,243	$1,683,027	$0	$35,000	$2,405,385
Home Lighting & Recycling	$5,450	$1,174,450	$1,703,314	$2,557,500	$0	$0	$5,440,714
Home Performance with ENERGY STAR	$5,450	$126,938	$11,441	$112,332	$0	$12,180	$268,341
Insulation Rebate	$0	$0	$6,000	$78,505	$0	$15,000	$99,505
Refrigerator Recycling	$2,725	$223,459	$161,275	$90,000	$0	$15,000	$492,459
School Education Kits	$1,362	$990,806	$0	$491,400	$0	$55,000	$1,538,568
Water Heater Rebate	$0	$0	$1,100	$90,000	$0	$9,000	$100,100
Residential Program Energy Efficiency Total	**$35,423**	**$3,329,036**	**$2,553,116**	**$6,804,018**	**$0**	**$438,525**	**$13,160,118**
Load Management Program - Residential Saver's Switch	**$0**	**$870,503**	**$1,612,031**	**$6,664,680**	**$4,064,750**	**$115,000**	**$13,326,964**
Residential Program Total	**$35,423**	**$4,199,539**	**$4,165,147**	**$13,468,698**	**$4,064,750**	**$553,525**	**$26,487,082**
Low-Income Program							
Energy Savings Kit	$1,362	$423,340	$100,384	$116,578	$0	$6,000	$647,664
Multi-Family Weatherization	$19,075	$53,132	$40,038	$227,072	$0	$11,352	$350,669
Non-Profit Energy Efficiency	$23,162	$62,366	$15,084	$449,512	$0	$22,475	$572,599
Single-Family Weatherization	$2,725	$70,389	$130,038	$942,911	$0	$58,192	$1,204,255
Low-Income Program Total	**$46,324**	**$609,227**	**$285,544**	**$1,736,073**	**$0**	**$98,019**	**$2,775,187**
Indirect Products & Services							
Education/Market Transformation							
Business Energy Analysis	$47,058	$760,015	$185,575	$0	$0	$0	$992,648
Consumer Education - Business	$0	$6,496	$147,269	$0	$0	$0	$153,765
Consumer Education - Residential	$19,647	$382,978	$830,049	$0	$0	$0	$1,232,674
Residential Home Energy Audit	$0	$260,193	$107,781	$211,600	$0	$56,000	$635,574
Education/Market Transformation Total	**$66,705**	**$1,409,682**	**$1,270,674**	**$211,600**	**$0**	**$56,000**	**$3,014,661**
Planning and Research							
DSM Planning & Administration	$0	$287,559	$0	$0	$0	$0	$287,559
Program Evaluations	$0	$0	$186	$0	$0	$384,126	$384,312
Measurement & Verification	$0	$0	$0	$0	$0	$78,097	$78,097
DSM Market Research	$0	$274,818	$94	$0	$0	$0	$274,912
DSM Product Development	$305,920	$696,638	$0	$0	$20,000	$0	$1,022,558
Energy Feedback Pilot	$343,400	$0	$0	$0	$0	$36,000	$379,400
In-Home Smart Device Pilot	$0	$1,081,147	$63,200	$56,250	$0	$40,000	$1,240,597
Electric Vehicle Charging Station Pilot	$0	$0	$0	$20,000	$0	$0	$20,000
DSM Product Development Total	**$649,320**	**$1,777,785**	**$63,200**	**$56,250**	**$20,000**	**$76,000**	**$2,642,555**
Planning and Research Total	**$649,320**	**$2,340,162**	**$63,480**	**$76,250**	**$20,000**	**$538,223**	**$3,687,436**
Indirect Products & Services Total	**$716,026**	**$3,749,844**	**$1,334,154**	**$287,850**	**$20,000**	**$594,223**	**$6,702,097**
PORTFOLIO TOTAL	**$1,548,527**	**$18,694,512**	**$8,693,714**	**$40,518,883**	**$4,084,750**	**$2,435,714**	**$75,976,099**
Product Development - Future Unidentified							
PORTFOLIO TOTAL w Future Unidentified	**$1,548,527**	**$18,694,512**	**$8,693,714**	**$40,518,883**	**$4,084,750**	**$2,435,714**	**$75,976,099**
ISOC	**$0**	**$28,008**	**$756**	**$2,731**	**$0**	**$0**	**$31,495**
EnerNoc	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
PORTFOLIO TOTAL w Future Unidentified & ISOC / EnerNoc Incremental	**$1,548,527**	**$18,722,520**	**$8,694,469**	**$40,521,614**	**$4,084,750**	**$2,435,714**	**$76,007,594**
Energy Efficiency Total	**$1,548,527**	**$17,824,009**	**$7,081,683**	**$33,854,203**	**$20,000**	**$2,320,714**	**$62,649,135**
Load Management Total	**$0**	**$898,511**	**$1,612,787**	**$6,667,411**	**$4,064,750**	**$115,000**	**$13,358,459**

Table 4b: Public Service's 2012 Gas DSM Program/Product Costs by Category

2012	Program Planning & Design	Administration & Program Delivery	Advertising/ Promotion/ Customer Ed	Participant Rebates and Incentives	Equipment & Installation	Measurement and Verification	Total
Business Program							
Compressed Air Efficiency							
Computer Efficiency							
Cooling Efficiency							
Custom Efficiency	$88,562	$57,673	$43,213	$27,072	$0	$5,000	$221,520
Data Center Efficiency							
Energy Management Systems	$8,175	$14,660	$322	$12,943	$0	$1,504	$37,604
Heating Efficiency	$2,725	$125,641	$33,193	$553,895	$0	$27,940	$743,394
Lighting Efficiency							
Motor & Drive Efficiency							
New Construction	$15,625	$150,014	$11,179	$338,102	$0	$8,000	$522,920
Process Efficiency							
Recommissioning	$8,175	$22,774	$11,867	$7,517	$0	$1,000	$51,333
Segment Efficiency	$0	$6,646	$588	$12,007	$0	$1,000	$20,241
Self-Directed Custom Efficiency							
Small Business Lighting							
Standard Offer	$6,812	$11,214	$0	$8,410	$0	$3,600	$30,036
Business Program Total	**$130,074**	**$388,622**	**$100,362**	**$959,946**	**$0**	**$48,044**	**$1,627,048**
Residential Program							
ENERGY STAR New Homes	$6,812	$513,277	$73,998	$1,170,834	$0	$826,887	$2,591,808
Evaporative Cooling Rebates							
Heating System Rebates	$2,725	$58,657	$85,485	$772,460	$0	$25,000	$944,327
High Efficiency Air Conditioning							
Home Lighting & Recycling							
Home Performance with ENERGY STAR	$4,087	$55,173	$9,747	$169,742	$0	$12,065	$250,814
Insulation Rebate	$1,362	$44,857	$0	$1,259,460	$0	$130,000	$1,435,679
Refrigerator Recycling							
School Education Kits							
Water Heater Rebate	$5,450	$14,578	$12,800	$279,000	$0	$30,000	$341,828
Residential Program Energy Efficiency Total	**$20,436**	**$686,542**	**$182,030**	**$3,651,496**	**$0**	**$1,023,952**	**$5,564,456**
Load Management Program - Residential Saver's Switch							
Residential Program Total	**$20,436**	**$686,542**	**$182,030**	**$3,651,496**	**$0**	**$1,023,952**	**$5,564,456**
Low-Income Program							
Energy Savings Kit	$1,362	$395,272	$21,553	$48,757	$0	$0	$466,944
Multi-Family Weatherization	$5,450	$54,982	$20,038	$340,984	$0	$17,049	$438,503
Non-Profit Energy Efficiency	$5,450	$40,903	$20,000	$528,241	$0	$33,412	$628,006
Single-Family Weatherization	$2,725	$108,175	$165,000	$1,616,869	$0	$55,200	$1,947,969
Low-Income Program Total	**$14,987**	**$599,332**	**$226,591**	**$2,534,851**	**$0**	**$105,661**	**$3,481,422**
Indirect Products & Services							
Education/Market Transformation							
Business Energy Analysis		$144,366	$5,452	$0	$0	$0	$159,182
Consumer Education - Business		$6,496	$43,506	$0	$0	$0	$50,002
Consumer Education - Residential		$149,963	$100,594	$0	$0	$0	$250,557
Residential Home Energy Audit		$193,029	$45,601	$248,400	$0	$30,000	$517,030
Education/Market Transformation Total		**$493,854**	**$195,153**	**$248,400**	**$0**	**$30,000**	**$976,771**
Planning and Research							
DSM Planning & Administration		$103,538	$0	$0	$0	$0	$103,538
Program Evaluations		$0	$0	$0	$0	$254,626	$254,626
Measurement & Verification		$0	$0	$0	$0	$14,010	$14,010
DSM Market Research		$258,712	$24	$0	$0	$0	$258,736
DSM Product Development		$134,275	$0	$0	$0	$0	$246,619
Energy Feedback Pilot	$85,856	$0	$0	$0	$0	$9,000	$94,856
In-Home Smart Device Pilot		$0	$0	$0	$0	$0	$0
Electric Vehicle Charging Station Pilot							
DSM Product Development Total	**$198,200**	**$134,275**	**$0**	**$0**	**$0**	**$9,000**	**$341,475**
Planning and Research Total	**$198,200**	**$496,525**	**$24**	**$0**	**$0**	**$277,636**	**$972,385**
Indirect Products & Services Total	**$207,565**	**$990,379**	**$195,177**	**$248,400**	**$0**	**$307,636**	**$1,949,157**
PORTFOLIO TOTAL	**$373,062**	**$2,664,875**	**$704,159**	**$7,394,693**	**$0**	**$1,485,294**	**$12,622,083**

Table 4c: Public Service's 2013 Electric DSM Program/Product Costs by Category

2013	Program Planning & Design	Administration & Program Delivery	Advertising/ Promotion/ Customer Ed	Participant Rebates and Incentives	Equipment & Installation	Measurement and Verification	Total
Business Program							
Compressed Air Efficiency	$56,135	$191,785	$112,199	$481,006	$0	$47,523	$888,648
Computer Efficiency	$1,592	$463,231	$22,682	$54,000	$0	$23,420	$564,924
Cooling Efficiency	$88,412	$411,163	$331,368	$2,266,013	$0	$28,800	$3,125,756
Custom Efficiency	$235,766	$805,324	$385,586	$565,298	$0	$52,500	$2,044,473
Data Center Efficiency	$67,362	$104,208	$237,622	$732,032	$0	$25,000	$1,166,224
Energy Management Systems	$26,664	$341,645	$176,990	$1,032,828	$0	$79,510	$1,657,636
Heating Efficiency							
Lighting Efficiency	$116,480	$1,231,429	$435,402	$6,506,736	$0	$240,180	$8,530,227
Motor & Drive Efficiency	$44,908	$558,860	$394,770	$4,722,117	$0	$163,155	$5,883,811
New Construction	$26,034	$2,566,586	$243,190	$4,173,565	$0	$290,000	$7,299,374
Process Efficiency	$30,874	$842,594	$33,212	$1,582,703	$0	$80,000	$2,569,383
Recommissioning	$25,261	$242,344	$152,960	$797,086	$0	$10,000	$1,227,650
Segment Efficiency	$0	$459,189	$156,968	$553,523	$0	$99,990	$1,269,669
Self-Directed Custom Efficiency	$16,840	$143,024	$18,358	$1,736,120	$0	$0	$1,914,342
Small Business Lighting	$1,403	$2,291,113	$201,471	$1,385,376	$0	$58,692	$3,938,056
Standard Offer	$35,084	$181,237	$39,003	$1,344,964	$0	$36,000	$1,636,288
Business Program Total	**$772,814**	**$10,833,731**	**$2,941,781**	**$27,933,367**	**$0**	**$1,234,770**	**$43,716,462**
Residential Program							
ENERGY STAR New Homes	$9,824	$139,858	$15,966	$177,293	$0	$205,113	$548,054
Evaporative Cooling Rebates	$4,210	$398,204	$296,696	$1,720,300	$0	$96,000	$2,515,410
Heating System Rebates							
High Efficiency Air Conditioning	$7,017	$314,837	$375,249	$1,683,027	$0	$35,000	$2,415,130
Home Lighting & Recycling	$5,614	$1,186,726	$1,703,413	$2,653,500	$0	$0	$5,549,253
Home Performance with ENERGY STAR	$5,613	$127,347	$11,458	$169,226	$0	$14,700	$328,344
Insulation Rebate	$0	$0	$6,000	$78,505	$0	$15,000	$99,505
Refrigerator Recycling	$2,807	$247,289	$165,026	$100,000	$0	$15,000	$530,121
School Education Kits	$1,403	$990,929	$0	$491,400	$0	$55,000	$1,538,732
Water Heater Rebate	$0	$0	$1,100	$90,000	$0	$9,000	$100,100
Residential Program Energy Efficiency Total	**$36,487**	**$3,405,191**	**$2,574,908**	**$7,163,251**	**$0**	**$444,813**	**$13,624,650**
Load Management Program - Residential Saver's Switch	**$0**	**$885,940**	**$1,612,392**	**$7,397,280**	**$4,064,750**	**$115,000**	**$14,075,362**
Residential Program Total	**$36,487**	**$4,291,130**	**$4,187,300**	**$14,560,531**	**$4,064,750**	**$559,813**	**$27,700,011**
Low-Income Program							
Energy Savings Kit	$1,403	$336,991	$70,385	$96,177	$0	$6,000	$510,957
Multi-Family Weatherization	$19,647	$53,462	$40,039	$264,946	$0	$11,352	$389,446
Non-Profit Energy Efficiency	$23,857	$62,531	$15,086	$806,299	$0	$22,475	$930,248
Single-Family Weatherization	$2,807	$73,097	$145,039	$942,911	$0	$58,192	$1,222,045
Low-Income Program Total	**$47,715**	**$526,081**	**$270,549**	**$2,110,333**	**$0**	**$98,019**	**$3,052,696**
Indirect Products & Services							
Education/Market Transformation							
Business Energy Analysis	$51,988	$762,954	$214,507	$0	$0	$0	$1,029,449
Consumer Education - Business	$0	$6,496	$147,269	$0	$0	$0	$153,765
Consumer Education - Residential	$19,647	$382,978	$830,049	$0	$0	$0	$1,232,674
Residential Home Energy Audit	$0	$266,279	$47,799	$211,600	$0	$56,000	$581,677
Education/Market Transformation Total	**$71,635**	**$1,418,707**	**$1,239,624**	**$211,600**	**$0**	**$56,000**	**$2,997,565**
Planning and Research							
DSM Planning & Administration	$0	$305,838	$0	$0	$0	$0	$305,838
Program Evaluations	$0	$11,599	$192	$0	$0	$585,082	$596,873
Measurement & Verification	$0	$0	$0	$0	$0	$102,223	$102,223
DSM Market Research	$0	$262,914	$97	$0	$0	$0	$263,011
DSM Product Development	$314,939	$696,597	$0	$0	$20,000	$0	$1,031,536
Energy Feedback Pilot	$325,048	$0	$0	$0	$0	$36,000	$361,048
In-Home Smart Device Pilot	$0	$829,456	$63,200	$56,250	$0	$35,000	$983,906
Electric Vehicle Charging Station Pilot	$0	$0	$0	$20,000	$0	$0	$20,000
DSM Product Development Total	**$639,987**	**$1,526,053**	**$63,200**	**$76,250**	**$20,000**	**$71,000**	**$2,396,489**
Planning and Research Total	**$639,987**	**$2,106,404**	**$63,488**	**$76,250**	**$20,000**	**$758,305**	**$3,664,434**
Indirect Products & Services Total	**$711,621**	**$3,525,111**	**$1,303,112**	**$287,850**	**$20,000**	**$814,305**	**$6,661,999**
PORTFOLIO TOTAL	**$1,568,637**	**$19,176,053**	**$8,702,742**	**$44,892,081**	**$4,084,750**	**$2,706,906**	**$81,131,169**
Product Development - Future Unidentified	**$93,582**	**$1,144,014**	**$519,192**	**$2,678,192**	**$243,690**	**$161,490**	**$4,840,161**
PORTFOLIO TOTAL w Future Unidentified	**$1,662,219**	**$20,320,066**	**$9,221,934**	**$47,570,273**	**$4,328,440**	**$2,868,396**	**$85,971,329**
ISOC	**$0**	**$28,928**	**$780**	**$2,873**	**$0**	**$0**	**$32,581**
EnerNoc	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
PORTFOLIO TOTAL w Future Unidentified & ISOC / EnerNoc Incremental	**$1,662,219**	**$20,348,994**	**$9,222,714**	**$47,573,147**	**$4,328,440**	**$2,868,396**	**$86,003,910**
Energy Efficiency Total	**$1,662,219**	**$19,434,127**	**$7,609,542**	**$40,172,993**	**$263,690**	**$2,753,396**	**$71,895,968**
Load Management Total	**$0**	**$914,867**	**$1,613,172**	**$7,400,153**	**$4,064,750**	**$115,000**	**$14,107,943**

Table 4d: Public Service's 2013 Gas DSM Program/Product Costs by Category

2013	Program Planning & Design	Administration & Program Delivery	Advertising/ Promotion/ Customer Ed	Participant Rebates and Incentives	Equipment & Installation	Measurement and Verification	Total
Business Program							
Compressed Air Efficiency							
Computer Efficiency							
Cooling Efficiency							
Custom Efficiency	$91,219	$61,382	$45,356	$29,154	$0	$5,250	$232,361
Data Center Efficiency							
Energy Management Systems	$8,420	$14,996	$332	$12,943	$0	$1,504	$38,195
Heating Efficiency	$2,807	$128,915	$33,283	$553,895	$0	$27,940	$746,839
Lighting Efficiency							
Motor & Drive Efficiency							
New Construction	$15,033	$84,495	$16,214	$261,423	$0	$11,000	$388,165
Process Efficiency							
Recommissioning	$8,420	$23,187	$7,923	$7,517	$0	$1,000	$48,047
Segment Efficiency	$0	$8,928	$606	$12,007	$0	$1,000	$22,540
Self-Directed Custom Efficiency							
Small Business Lighting							
Standard Offer	$7,017	$11,551	$0	$8,410	$0	$3,600	$30,578
Business Program Energy Efficiency Total	**$132,916**	**$333,452**	**$103,714**	**$885,349**	**$0**	**$51,294**	**$1,506,725**
Business Program Total	**$132,916**	**$333,452**	**$103,714**	**$885,349**	**$0**	**$51,294**	**$1,506,725**
Residential Program							
ENERGY STAR New Homes	$7,017	$532,676	$63,711	$1,208,013	$0	$826,887	$2,638,304
Evaporative Cooling Rebates							
Heating System Rebates	$2,807	$59,900	$85,500	$772,460	$0	$25,000	$945,667
High Efficiency Air Conditioning							
Home Lighting & Recycling							
Home Performance with ENERGY STAR	$4,210	$41,071	$10,305	$254,900	$0	$16,056	$326,542
Insulation Rebate	$1,403	$46,203	$0	$1,259,460	$0	$130,000	$1,437,066
Refrigerator Recycling							
School Education Kits							
Water Heater Rebate	$5,614	$15,015	$12,800	$279,000	$0	$30,000	$342,428
Residential Program Energy Efficiency Total	**$21,050**	**$694,865**	**$172,316**	**$3,773,833**	**$0**	**$1,027,943**	**$5,690,007**
Load Management Program - Residential Saver's Switch							
Residential Program Total	**$21,050**	**$694,865**	**$172,316**	**$3,773,833**	**$0**	**$1,027,943**	**$5,690,007**
Low-Income Program							
Energy Savings Kit	$1,403	$431,287	$21,553	$40,224	$0	$0	$494,467
Multi-Family Weatherization	$5,614	$55,562	$20,039	$340,984	$0	$17,049	$439,248
Non-Profit Energy Efficiency	$5,613	$41,068	$20,000	$528,241	$0	$33,412	$628,334
Single-Family Weatherization	$2,807	$114,500	$145,000	$1,616,869	$0	$80,843	$1,960,019
Low-Income Program Total	**$15,437**	**$642,417**	**$206,592**	**$2,526,318**	**$0**	**$131,304**	**$3,522,068**
Indirect Products & Services							
Education/Market Transformation							
Business Energy Analysis		$144,956	$5,902	$0	$0	$0	$161,658
Consumer Education - Business		$6,496	$43,506	$0	$0	$0	$50,002
Consumer Education - Residential		$149,963	$100,594	$0	$0	$0	$250,557
Residential Home Energy Audit		$198,599	$45,619	$248,400	$0	$30,000	$522,618
Education/Market Transformation Total		**$500,014**	**$195,621**	**$248,400**	**$0**	**$30,000**	**$984,835**
Planning and Research							
DSM Planning & Administration		$117,300	$0	$0	$0	$0	$117,300
Program Evaluations		$11,599	$0	$0	$0	$255,582	$267,182
Measurement & Verification		$0	$0	$0	$0	$25,850	$25,850
DSM Market Research		$246,003	$25	$0	$0	$0	$246,028
DSM Product Development		$134,193	$0	$0	$0	$0	$255,106
Energy Feedback Pilot	$81,260	$0	$0	$0	$0	$9,000	$90,260
In-Home Smart Device Pilot		$0	$0	$0	$0	$0	$0
Electric Vehicle Charging Station Pilot							
DSM Product Development Total	**$202,173**	**$134,193**	**$0**	**$0**	**$0**	**$9,000**	**$345,366**
Planning and Research Total	**$202,173**	**$509,096**	**$25**	**$0**	**$0**	**$290,432**	**$1,001,726**
Indirect Products & Services Total	**$212,973**	**$1,009,110**	**$195,645**	**$248,400**	**$0**	**$320,432**	**$1,986,561**
PORTFOLIO TOTAL	**$382,376**	**$2,679,843**	**$678,267**	**$7,433,900**	**$0**	**$1,530,974**	**$12,705,361**

Business Program

A. Description

In the 2012/2013 Biennial Plan, Public Service's Business Program consists of commercial and industrial customers in the Colorado service area. As of May 30, 2010, Public Service had a total of 197,819 gas and electric commercial and industrial customers in Colorado. The majority of high natural gas consumption customers in Public Service's area are transportation-only customers that do not purchase gas directly from the Company. Such customers are exempt from paying the Demand-Side Management Cost Adjustment (DSMCA) and, therefore, are ineligible to participate in the Company's energy efficiency products. A further breakdown of Business customers is shown in the table below, excluding the natural gas transportation customers.

Table 5: Business Program Customer Counts

Type	**Natural Gas Only**	**Electric Only**	**Both Gas & Electric**	**Subtotal**
Commercial	33,788	89,080	70,756	193,624
Industrial	3,630	441	124	4,195
Total	**37,418**	**89,521**	**70,880**	**197,819**

Public Service divides business customers into two sub-segments for marketing purposes: large customers and small business customers. Large customers are typically single or aggregated electric customers with demand usage of over 500 kW, natural gas customers with annual loads of 5,000 Dth or more, or national customers, such as fast-food chains. Large customers have a Company account manager assigned to them to serve as a liaison with Public Service. Small business customers work with our Business Solutions Center (BSC) to answer any questions they may have on their accounts and to investigate potential energy efficiency projects. In addition to large versus small customers, Public Service often studies individual customer sectors, as described in the table below.

Table 6: Business Program Market Sectors

Market Sector	# of Electric Customers	# of Gas Customers	# of Combo Customers	% of Total Customer Base
Chemicals	105	121	137	0.18%
Electronics	85	159	251	0.25%
Fabricated Metals	145	162	345	0.33%
Food	2,883	649	852	2.23%
Food Store/ Grocery	695	587	1,154	1.24%
Hospital/Healthcare	1,559	1,404	1,986	2.52%
Hotel/Motel	741	725	420	0.96%
Industrial Machinery	226	262	536	0.52%
Instruments	176	141	246	0.29%
Lumber, Furniture	203	146	389	0.38%
Mining	86	22	45	0.08%
Misc. Manufacturing.	8,920	2,080	11,186	11.28%
Miscellaneous	17,680	5,376	4,318	13.91%
Office	15,463	7,293	13,349	18.35%
Paper	35	24	61	0.06%
Petroleum	257	130	135	0.27%
Primary Metals	37	30	51	0.06%
Printing	281	165	531	0.50%
Restaurant	1,716	1,847	4,044	3.87%
Retail	6,696	4,778	12,294	12.08%
Rubber, Plastics	57	63	134	0.13%
School College	1,543	1,600	895	2.05%
Stone, Clay, Glass	196	131	164	0.25%
Textiles	75	68	193	0.17%
Transportation Equip.	51	72	73	0.10%
Transportation	1,060	452	844	1.20%
Warehouse	2,382	1,545	4,126	4.09%
Water/Wastewater	442	135	94	0.34%
Unknown Categories	24,933	6,522	12,463	22.32%

Products

An extensive portfolio of products is planned for the Business Program in 2012 and 2013. Public Service is proposing to continue offering 15 electric and 7 natural gas direct impact products. 6 of the 7 natural gas products coincide with their electric counterparts such as Custom Efficiency where electric, natural gas or both savings can be analyzed. The Computer Efficiency product is new to this plan filing and was launched via 60 day notice in July 2011. Public service intends to continue offering products targeting specific market segments that were launched in 2009. These products

continue to penetrate their market segments and work to become larger contributors to the portfolio. The business product rankings are shown in Table 7 below, and the products goals and budgets are shown in Table 8a and 8b below. Additional detail on these products is presented in each product description.

Table 7: Business Product Rankings

Product Name	Product Ranking[8]	Type	Fuel
Lighting Efficiency	2	Prescriptive	Electric
Motor & Drive Efficiency	3	Prescriptive	Electric
Standard Offer	6	Custom	Electric/Gas
Small Business Lighting	9	Prescriptive	Electric
Computer Efficiency	11	Prescriptive	Electric
New Construction	12	Custom	Electric/Gas
Cooling Efficiency	13	Prescriptive	Electric
Energy Management Systems	14	Custom	Electric/Gas
Recommissioning	15	Custom	Electric/Gas
Process Efficiency	16	Custom	Electric
Data Center Efficiency	17	Custom	Electric
Custom Efficiency	18	Custom	Electric/Gas
Compressed Air Efficiency	20	Custom	Electric
Self-Directed Custom Efficiency	21	Custom	Electric
Segment Efficiency	27	Custom	Electric/Gas
Heating Efficiency	29	Prescriptive	Gas

Xcel Energy has extensive experience offering DSM products throughout its service areas including successful DSM product delivery in Public Service territory since 2006. It intends to continue building on its achievements in Colorado with the best of its product offerings. Xcel Energy also participates in larger regional and national efforts to design and develop the best products for customers. For example, Xcel Energy participates in the Consortium for Energy Efficiency's planning and research efforts. This group's primary purpose is to promote energy efficiency technologies through partnerships with utilities, manufacturers and other interested parties. In addition, Xcel Energy is a member of the Lighting Research Center. This organization provides relevant technical data on state-of-the-art lighting technologies and design practices.

The following are the newest products or measures launched in 2011 for the Colorado market: Evaporative cooling, flat plate heat exchanger and variable frequency drive retrofit for chillers measures in Cooling Efficiency, Computer Efficiency, Expanded fixture options for Lighting Efficiency and Small Business Lighting and Prescriptive rebates for new variable speed drive compressors in Compressed Air Efficiency, products. These products were developed based on a need identified by stakeholders or an established gap found in reviewing utility best practices.

[8] Rankings are established by determining market segments that could participate in the program, customer classes available, total projected savings, MTRC score, participation, and participation % of market. The entire portfolio ranking can be found in the Appendices of this filing.

B. Overall Goals, Participants & Budgets

The Business Program contributes a significant portion of Public Service's planned conservation and load management achievements in this 2012/13 Plan, accounting for 412,871,039 GWh at the generator and 199,711 Dth over the two-year period. This equates to 60% of the Company's total electric energy savings goal and 24% of the total natural gas savings goal. The most significant Business Program energy savings will come from the Lighting Efficiency, New Construction, Motor and Drive Efficiency, and Small Business Lighting products. In this plan the Business Program is proposing a significant increase from 2011 goals due to higher portfolio level goals set from the Strategic Policy Issues Filing (Docket No. 10A-554EG). Public Service intends to accelerate market penetration in all customer classes through increased advertising, communications, promotions, trade channel development and long term planning with customers to hit these higher goals.

The Company is reducing its natural gas spending through rebate reductions due to its concerns about the reduced cost-effectiveness of many gas DSM products given low gas commodity prices, the lack of significant system benefits from gas DSM, and the rate impact on non-participating customers. Public Service expects that the pipeline of projects it has built since 2009 will keep Dth savings close to historical levels in 2012 and 2013.

The following table shows the Company's proposed electric and natural gas Business Program goals and budgets by product.

Table 8a: 2012 Electric Business Program Budgets and Goals

2012	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Business Program					
Compressed Air Efficiency	73	$838,191	620	4,137,552	2.25
Computer Efficiency	2,666	$500,637	1,004	7,342,230	2.87
Cooling Efficiency	301	$2,976,091	2,121	7,033,292	1.52
Custom Efficiency	34	$1,903,248	717	7,607,232	2.03
Data Center Efficiency	12	$935,135	506	6,410,823	3.70
Energy Management Systems	56	$1,541,500	243	8,495,894	1.70
Heating Efficiency					
Lighting Efficiency	1,140	$8,388,395	12,040	62,917,758	2.78
Motor & Drive Efficiency	1,589	$5,433,060	3,458	21,145,535	2.13
New Construction	91	$6,385,394	8,147	24,457,692	2.20
Process Efficiency	12	$2,017,096	782	11,029,631	2.26
Recommissioning	85	$1,319,172	330	5,925,060	1.23
Segment Efficiency	60	$1,185,732	347	2,585,240	1.38
Self-Directed Custom Efficiency	13	$1,908,790	1,957	8,975,070	1.79
Small Business Lighting	165	$3,011,058	2,108	11,328,366	1.82
Standard Offer	12	$1,668,234	1,287	9,138,595	1.14
Business Program Total	**6,309**	**$40,011,734**	**35,667**	**198,529,968**	**2.17**

Table 8b: 2012 Gas Business Program Budgets and Goals

2012	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Business Program						
Compressed Air Efficiency						
Computer Efficiency						
Cooling Efficiency						
Custom Efficiency	5	$221,520	6,294	28,414	$80,198	1.19
Data Center Efficiency						
Energy Management Systems	16	$37,604	2,889	76,824	$143,231	1.85
Heating Efficiency	208	$743,394	30,885	41,545	$284,915	1.12
Lighting Efficiency						
Motor & Drive Efficiency						
New Construction	45	$522,920	58,037	110,986	$551,287	1.12
Process Efficiency						
Recommissioning	8	$51,333	2,261	44,054	$225,285	4.30
Segment Efficiency	9	$20,241	2,171	107,234	$57,038	1.72
Self-Directed Custom Efficiency						
Small Business Lighting						
Standard Offer	6	$30,036	1,754	58,408	$2,036,982	20.86
Business Program Total	**297**	**$1,627,048**	**104,291**	**64,098**	**$3,378,936**	**1.43**

Table 8c: 2013 Electric Business Program Budgets and Goals

2013	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Business Program					
Compressed Air Efficiency	73	$888,648	620	4,137,552	2.26
Computer Efficiency	2,816	$564,924	1,074	7,849,377	2.71
Cooling Efficiency	304	$3,125,756	2,131	7,466,289	1.55
Custom Efficiency	38	$2,044,473	825	8,748,317	2.16
Data Center Efficiency	18	$1,166,224	755	9,138,385	4.54
Energy Management Systems	62	$1,657,636	269	9,406,168	1.77
Heating Efficiency					
Lighting Efficiency	981	$8,530,227	10,880	58,957,958	2.69
Motor & Drive Efficiency	1,924	$5,883,811	3,860	23,994,123	2.22
New Construction	74	$7,299,374	9,808	24,790,163	2.42
Process Efficiency	15	$2,569,383	1,228	17,332,277	2.57
Recommissioning	84	$1,227,650	328	5,868,657	1.31
Segment Efficiency	73	$1,269,669	554	4,164,250	1.82
Self-Directed Custom Efficiency	13	$1,914,342	1,957	8,975,070	1.83
Small Business Lighting	195	$3,938,056	2,609	14,373,890	1.88
Standard Offer	12	$1,636,288	1,287	9,138,595	1.17
Business Program Total	**6,682**	**$43,716,462**	**38,184**	**214,341,071**	**2.27**

Table 8d: 2013 Gas Business Program Budgets and Goals

2013	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Business Program						
Compressed Air Efficiency						
Computer Efficiency						
Cooling Efficiency						
Custom Efficiency	5	$232,361	6,778	29,172	$113,622	1.25
Data Center Efficiency						
Energy Management Systems	17	$38,195	3,069	80,361	$162,126	1.92
Heating Efficiency	208	$746,839	30,885	41,354	$365,945	1.16
Lighting Efficiency						
Motor & Drive Efficiency						
New Construction	31	$388,165	48,501	124,950	$3,503	1.00
Process Efficiency						
Recommissioning	8	$48,047	2,261	47,067	$233,040	4.59
Segment Efficiency	9	$22,540	2,171	96,296	$60,180	1.74
Self-Directed Custom Efficiency						
Small Business Lighting						
Standard Offer	6	$30,578	1,754	57,374	$2,041,581	20.80
Business Program Total	**284**	**$1,506,725**	**95,420**	**63,329**	**$2,979,997**	**1.72**

Goals and Participants

Electric goals were established first at the portfolio level by the Commission in Docket No. 10A-554EG.[9] The Company's DSM management team reviewed these goals and completed an initial allocation to the Business, Residential, and Low-Income Programs. This allocation was accomplished through a review of historical data, discussions from the DSM Roundtable meetings, and meetings with local and national energy industry experts.

Once the overall portfolio goal was allocated to the individual programs, the program goals were allocated to each product. This allocation process was based primarily on a review of product performance for the past three and half years and longer-term experience with similar products in Minnesota. Each product team then reviewed the information and informed the program manager on whether the goals set forth are achievable.

Budgets

For 2012 and 2013, DSM budgets were developed using a well-defined process. Relative to the goals setting process, budgets were first allocated across customer segments, specifically to Business, Residential, Low-Income, and Indirect. Under each program, the products rebate budgets were then established according to the desired number of product participants and estimated average project size. Next, budget components, such as advertising and promotion, were developed as part of the product planning process. Then, product delivery budgets, including Company labor and external resources, were calculated. Some products, such as New Construction, issue competitive bids to secure consultant resources. Finally, the budgets are totaled and reviewed for reasonableness given the historical and projected performance of each product. The resulting overall goals and budgets from this planning process are shown in the executive summary section of this Plan.

[9] Note that there were no natural gas DSM goals established by the Commission, Rule, or Statute, but rather that the gas DSM rules require utilities to propose a savings target.

Electric budgets have increased slightly overall due to the need to achieve higher goals and net to gross downward adjustments in two large business products, Motor and Drive Efficiency and Recommissioning. A lower net to gross will reduce claimed savings for the same spend causing an increase in dollar per kW/kWh metrics. However, due to program delivery efficiencies realized over time the budget dollar per kW/kWh for the business program has fallen from the 2011 DSM Plan.

Natural Gas budgets have fallen significantly due to removing the natural gas component of Process Efficiency and the reduction of gas rebates for Heating Efficiency, Custom Efficiency, Energy Management Systems, New Construction, Recommissioning, Segment Efficiency and Standard offer.

C. Market Analysis

Market analysis of both the commercial and industrial customer shows that the commercial segment had the highest potential for energy savings, with lighting, office equipment, cooling and ventilation, and refrigeration as the end-uses with the greatest potential. On the industrial side, pumps, compressed air, lighting, fans, drives and cooling show the greatest-end use potential.

Public Service's Plan shows the Company strengthening its efforts within the Business Program to address specific market segments and their needs. Data Center Efficiency, Segment Efficiency and Process Efficiency continue to penetrate their segments and are building a pipeline of projects with expected completions in 2012 and 2013. Further analysis will be conducted in future research to identify other likely candidates for such targeted efforts.

Increasing federal efficiency standards will impact Lighting Efficiency and Small Business Lighting beginning in 2012, when screw-in CFL rebates will no longer be available to business customers, and in 2013 when stricter baselines will significantly reduce fluorescent fixture reportable savings – a substantial proportion of total savings since the products' inception.

Transactional research is also conducted by Public Service to identify who is participating in our DSM products. Specific detail from our rebate applications, including customer name, vendor, type of equipment, etc, is collected on each transaction and added to a database. This information helps monitor trade allies that may not be participating in DSM products, which market segments are missed and what equipment types our customers are using. By analyzing specific end-use data, Public Service can begin to shape the Business Program to meet the further needs of the market.

D. Marketing/Advertising/Promotion

Trade allies, end-use equipment vendors, energy services companies, and Public Service's account managers primarily drive conservation and load management achievements in the Business Program. Although sales to the largest business customers typically require personal visits, Public Service also utilizes newsletters, customer events, direct mail, email communications, and awareness advertising to reach Business Program customers. The challenge of communicating with Business customers is that energy efficiency is not top of the mind – they are busy running other aspects of their businesses. Customers tend to focus on purchase price rather than lifetime costs and are unlikely to replace equipment until it is broken. Customers may also not be aware of available

energy efficiency options when the need arises to make purchase decisions. Yet, there are several opportunities in marketing the Business Program to customers who have a growing focus on energy efficiency and the need to conserve. Energy supply and climate change issues have increased this awareness and affinity for energy-saving actions. To support marketing efforts, Public Service employs an integrated approach to marketing communications, where the tactics are designed to work in concert with each other and reinforce key messages over time.

Strategy

Public Service follows the "AIDA" (awareness, interest, desire, action) process for encouraging customers to use the rebate products. The following are the steps in this process:

1. Create awareness of electricity and/or natural gas impacts on bottom-line profits, potential savings and available rebates.
2. Create interest by offering more information about product offerings as details become available, including payback examples and case studies.
3. Create desire by showing hard numbers, based on available product and industry information, for a bundle of solutions for each targeted segment.
4. Move the customer toward action by offering a variety of options with varying degrees of commitment/long-term involvement.

Key Messages and Target Audience

When communicating with customers, Public Service uses several overarching key messages including:

- Energy efficiency reduces operating costs and improves the bottom line.
- Public Service helps lower energy bills by giving rebates and incentives for installing highly efficient equipment, using energy-saving building designs and running existing equipment to optimize comfort and energy savings.
- Rebates and incentives shorten payback periods for energy-efficient equipment and systems, providing lasting savings for years to come.
- Energy efficiency helps reduce the customer's impact on the environment.

Public Service also markets its products differently to the various business sub-populations, depending on the target audience. Each of these target audiences are identified by key shared characteristics before analyzing their motivations. Once motivations are identified, Public Service can adjust the above key messages to meet the customers' specific needs.

Small business customers traditionally own or work in buildings in segments such as offices, retail, healthcare, education, lodging, light manufacturing and grocery. They are motivated differently than larger businesses and are busy trying to keep their businesses successful and running smoothly which means energy is a low-interest category. Small business owners are motivated by how to save money and how to make things more convenient. Key messages used to address these needs include:

- Energy savings go right to profits.
- Partnering with the property manager (where applicable) to employ energy savings. lowers energy costs, often improves ambiance, and increases the owner's property value.

Large commercial customers traditionally own or work in buildings in segments such as office, retail, education, healthcare, restaurants, auto dealerships and congregations. These customers recognize the value of environmental responsibility and sustainability efforts; but in doing so want to weave these efforts into their long-term financial strategies. Industrial customers traditionally own or work in food processing, chemicals, fabricated metals, rubber and plastics and warehouses. These customers focus on energy conservation, not to benefit the environment, but to keep operating costs low. They are highly engaged in getting the most production from every unit of energy, eliminating waste and making smarter energy choices. In all, these customers are the most energy-savvy and are constantly monitoring processes. Key messages used to address both these customer groups include:

- Energy is a large part of the operating budget.
- Rebates help reduce up-front costs, shorten payback periods and provide ongoing savings for years to come.
- Energy savings go right to the bottom line as increased profits.
- Investing in energy savings is a smart decision.
- Energy-efficient equipment and systems help increase reliability while decreasing maintenance costs.
- Saving energy helps to reduce customer's impact on the environment and meet sustainability goals.

Marketing Tactics

Product- and program-specific promotions
Product-specific marketing efforts tie back to the overriding message, offering specific examples of concrete ways to do more. These examples show customers and trade partners the direct, personal impacts of their efforts, offering examples of energy savings, paybacks and lifetime savings or personal rewards.

Solutions-based marketing
These communications focus on product combinations that offer solutions for a specific customer segment (e.g., schools) or for common customers concerns (e.g., weather, energy costs, environmental) to offer customers several solutions rather than a product.

Communications vehicles:

- Product collateral, including feature sheets, applications, customer case studies, savings calculators, participating vendor lists and cross-product energy-savings guides.
- Newsletters for specific products or cross promotion, such as the Energy Exchange for trade partners and Energy Solutions for Public Service customers.
- Websites.
- Direct mail campaigns for specific product end uses announcing new incentives or for customer education, as well as general direct mail pieces targeted at specific market segments.
- Events, including product and technical training, customer education and customer recognition.

- Speaking opportunities in local industry meetings, business events (i.e. Chambers, National Association of Industrial and Office Properties, and Building Owners and Managers Association) and local conferences.
- Media relations, including free placement in appropriate media, focusing primarily on customer stories and product information and changes.
- Advertising in business magazines, newspapers, the internet and radio spots.

E. Program-Level Policies

The Company has adopted several general policies that are followed in the Business Program. Individual products may follow different policies as noted in the product descriptions. The general policies provide overall product management direction; however, they may be relaxed for specific time periods when warranted for promotional events or other purposes.

The program-level policies include:

- Proof of installation: All products require documentation of installation, whether it be proof of purchase (e.g., invoices) or a site verification
- Installation date: Rebates are provided for equipment installed within a 12-month period.
- Payback requirements: The payback policy for conservation products is that rebates may be paid on projects with paybacks more than 1 year.
- Studies: Study funding cannot exceed 75% of the study cost and studies must be completed within three months.
- Incremental cost: Rebates cannot exceed 60% of the total incremental cost of the efficiency measure.
- Load Shifting: Load shifting occurs when a measure shifts electrical energy and demand usage to an off-peak period, without reducing the total load served over a defined time period. Potential load shifting projects need to meet all existing eligibility requirements of the applicable product as well as additional persistence requirements.
- Study Driven Savings: If a customer implements measures that are less than a one year payback, they will not receive a rebate, but Public Service will claim those study-driven savings. The Company believes that our help identifying and/or analyzing energy efficiency measures provide sufficient influence on the customer's decision to implement those measures.

F. Stakeholder Involvement

Since 2009, the primary avenue for external party involvement has been the DSM Roundtable. The Roundtable is open to all interested parties that want more information on Public Service's DSM products and would like to provide feedback into the design, planning, and implementation of the products. The group currently meets four times per year. Public Service appreciates this group's efforts and takes into consideration what is learned through this event. For example, Public Service requested feedback from the group on the design of a small business product originally designed to address lighting needs. Feedback from the group indicated the product design as sound, but suggested adding in steps to address other measures besides lighting. In response to this feedback, Public Service will focus on lighting in the Small Business Lighting Efficiency product, but address other measures to the extent the customer is interested when the lighting audit is undertaken. DSM

Roundtable events have been well attended by a diverse group of participants. These participants include the Governor's Energy Office, Commission staff, trade partners, large customers, Environmental Pollution Control Agency staff, Office of General Council staff, and environmental activists.

Beyond the DSM Roundtable, each product manager individually involves the applicable trade allies and other groups in the development of the products. Public Service is fully cognizant that the products will only be successful if the participants are fully satisfied with how the product is delivered and the results achieved.

G. Evaluation, Measurement & Verification

The M&V process for prescriptive and custom measures is detailed in the E,M&V section of the Indirect Products and Services in this Plan.

Products that will undergo comprehensive evaluations in 2011 are noted in the E,M&V section of the Indirect Products and Services, as well as in the respective product description.

➢ Compressed Air Efficiency Product

A. Description

The Colorado Compressed Air Efficiency Product helps customers address inefficiencies in their compressed air systems. The product encourages repair and redesign of existing systems, and encourages the purchase of efficient options for new and replacement systems. The product has three components:

1. Prescriptive rebates for the most common high-efficiency options such as no-loss air drains and for certain Variable Frequency Drive (VFD) compressors;
2. Rebates for studies that help customers identify efficiency opportunities from fixing leaks as well as from redesign or replacement of system components; and
3. Custom rebates for implementation of unique improvements identified by studies. Improvements can include capital purchases, such as qualifying compressors and "process" changes, such as piping modifications or horsepower reductions.

Rebates are available for any size of compressed air equipment through the product's custom component. For equipment over 50 horsepower, it is expected that the customer will participate in the study portion of the product prior to submitting for a custom efficiency rebate. Examples of equipment replacement that may qualify for the custom equipment rebate include:

- Replace an oversized 50 horsepower compressor with a 40 horsepower compressor;
- After completing a compressed air study, replace an existing 150 horsepower air compressor with two 75 horsepower compressors and controls;
- After completing a compressed air study, replace an existing 150 horsepower air compressor with a 150 horsepower variable frequency drive compressor; and
- After completing a compressed air study, installing a high efficiency air dryer.

The Compressed Air Efficiency Product is available to all electric commercial and industrial customers within the company's service area. The primary target is a larger business customer that has some or all of the following characteristics:

- Demand of 500+ kW, and
- Operates within energy intensive industries (e.g., food processing, mining, etc).

In addition, there is a secondary target of small business customers that may have these characteristics:

- Limited internal resources to purchase, install and finance projects,
- Limited technical expertise, and
- Focus on short-term paybacks.

Members of the trade are also targeted, including equipment manufacturers and installers, as well as design engineers and electricians.

B. Goals, Participants & Budgets

Goals and Participants

For 2012-2013, goals are established at the portfolio level by Xcel Energy's management team by considering recent trends and longer-term experience. The team also reviewed all DSM product goals and completed an initial allocation of the goals to each product. This allocation is based on a review of past product performance and the allocation from the 2011 goal.

Planned participation in 2012-2013 is derived from the 2011 goal, trade participant feedback, and an evaluation of potential customers within the Colorado service area. The participation is also adjusted due to the recent trend of customers bundling their compressed air measures within the company's interdisciplinary products.

Budgets

Once goals were established, the budget process is generally the same for Compressed Air as with the other DSM products. Historical cost and participation information is tracked and analyzed to project budgets. Comparative spending analysis of past year activity is conducted, but is not the determining annual factor, because of other external variables like promotions, materials and staffing. Experience from Minnesota products is used as a checkpoint.

For the Compressed Air Product, most of the budget is driven by rebates, internal labor, and third party consulting.

- **Rebates** – The budget for rebates is established by estimating participation for the product and applying the rebate per kW, including a base rebate, an additional rebate level added in 2011 to help close the gap to goal, and additional rebates for promotional incentives to stimulate participation.
- **Internal labor –** Compressed Air Efficiency is a labor-intensive product. It is one of the few products in Colorado that has prescriptive, study-based, and custom components. The study and custom components require Xcel Energy staff to conduct detailed analysis for preapproval of each potential project. Labor is typically around 30% of the product cost.
- **Third party consulting –** In early 2010, the company transferred the project analysis duties from a third party consultant to our in-house engineering staff. The consultant continued to provide measurement and verification (M&V) duties. In 2012 and 2013 a third party consultant will continue to provide M&V services.

C. Application Process

The customer can learn about the product through various channels including the account manager, compressed air vendor, website literature, or product advertising. Applications must be signed by the customer but can be submitted by customer representatives including building owners, contractors, engineering firms, energy services companies, and equipment vendors. Typically, the customer or a vendor selling to the customer identifies a project and starts the application process, as described below.

Compressed Air Prescriptive Measures

For prescriptive measures, Compressed Air's application process is similar to our other prescriptive products.

Customers may apply for rebates by completing the application and providing a detailed invoice for the installed equipment. The equipment must be new and meet all the qualifications detailed on the application. The customers may submit for a rebate within twelve months after the invoice date. Once the paperwork is completed and submitted, rebate checks are mailed within six weeks to the customer as indicated on the application.

The replacement of compressors must be a one-for-one replacement of load/no-load compressor(s) with a variable speed drive compressor(s). If the retrofit is not a one-for-one replacement but still results in energy savings, customers may apply for preapproval through the Custom Compressed Air process.

Compressed Air Studies

First, the customer contacts a participating compressed air vendor/contractor and requests a study estimate. A trade network list is available from the company for customers who have not chosen a vendor. The customer submits the Compressed Air Efficiency study application and the proposed cost of the study to the account representative. To receive preapproval, the study application must propose to include the following components:

- An ultrasonic leak survey to locate and tag air leaks, and estimate the cost of inefficiencies due to system leaks and misuses;
- An efficiency report with system recommendations and estimate of energy cost savings due to each recommendation;
- Characterization of major compressed air system components including:
    - Compressor number, type, capacity, pressure rating and age
    - Compressor motor size, efficiency and age
    - Type, capacity and age of dryers and other conditioning equipment
    - Type of automatic compressor controls, if any
    - Description of major compressed air end uses
    - Location and layout of piping and major system components
    - Inspection of compressed air system components and identification of problem areas;
- Identification of system loading of major compressed air users including size, frequency and duration of use;
- Flow and/or electric metering results;
- Summary of the results of the leak and unregulated demand inspection, including the location and approximate size of each leak;
- Summary of the execution steps and cost estimate to repair the leaks, unregulated end-uses and inefficient compressed air applications;
- Recommendations for improvements to customer's maintenance procedures; and
- Recommendations for follow-up actions to improve operation and efficiency, including the installation of new equipment.

To receive the study rebate, the customer must deliver the completed study report and must repair at least 50% of the air loss due to leaks and/or waste as identified by the study. When the report is complete and the customer has repaired the leaks, the customer will inform their account representative. The customer and account representative review the list of identified leaks and note the repair status of each leak. The customer and Account Representative both sign the verification section of the application and submit it to the product manager along with copies of invoices and other required information as stipulated in the preapproval letter. The company reimburses the

customer for the study portion of the project within six weeks of when the information described above is received.

Custom Compressed Air
If the customer chooses to implement recommended capital improvements to the compressed air system that do not qualify for prescriptive rebates, they may apply for preapproval of their project through the Custom Efficiency Product application process. Please see the Custom Efficiency section for a description of the process to be followed.

D. Marketing Objectives, Goals, & Strategy

Marketing Strategy
Account managers and compressed air vendors are the primary marketing conduits for this product and market the product through their direct relationships with customers. In addition, the following strategies will help meet product goals in 2012-2013.

Target Industrial Customers. Industrial customers make up a sizeable untapped market that has the potential to bring in large compressed air projects. The company targets these customers with direct contact (which may include mailings, calls, etc.) to create awareness and answer questions about the product.

Partner with Trade Partners. Trade partners are a significant factor in the success of this product. Working directly with these trade partners helps them to identify customers for the product early in the planning stages of a project. The company continually strives to demonstrate how incorporating incentives into trade partners' bids can be benefit their businesses.

Vendor Training. Currently there are only three major providers of compressed air studies in the Denver market. Competition amongst this group is high due to the limited market size. For this reason, it is best to approach these trade partners individually rather than offer a group training format. Throughout 2012-2013, we will schedule several one-on-one meetings with these trade partners. The meetings will provide a forum to review the vendor's work, make recommendations for a better end product and solicit feedback on the effectiveness of the product.

Marketing Collateral. Marketing collateral is an important tool to provide customers with useful, easy to follow guidelines for the product. The company continuously solicits feedback from customers and trade partners to improve these materials. Collateral is available in soft and hard copy format for customers, trade partners, and the company's internal staff. Customers and trade partners can request hard copies of the material or they can access material on Xcel Energy's website. The collateral available includes:

- **Compressed Air Feature Sheet** – Tool that helps describe the product to customers and trade partners. It provides examples of projects that may qualify business reasons to participate, and a summary of the procedures to follow.
- **Compressed Air Application for qualifying prescriptive measures** – The document lists qualifying prescriptive measures. The customer fills out several sections including technical information related to the proposed and existing equipment.

- **Compressed Air Study Application** – The document that customers fill out to start the process of participation. The customer or vendor is asked to fill out several sections including information about the location, applicable rates, project description, equipment supplier, technical information about existing and proposed equipment, and project verification.
- **Vendor List** – A list of trade partners who have submitted studies in the past or expressed an interest in participating in the product. The list is provided for the convenience of customers who do not have a working relationship with a vendor. The company does not endorse any particular company over another.
- **Compressed Air Study Template** – This tool is a detailed example of a study that is comprehensive and provides value to customers' energy saving efforts.

E. Product-Specific Policies

Compressed Air studies and custom projects require pre-approval before purchase and installation. This process helps minimize free ridership and it ensures the technical and financial soundness of projects that are awarded rebates. All compressed air equipment projects must have a payback period over one year.

The system requirements include:

- Electrically driven compressed air systems
- Minimum 50 horsepower total installed air compressor capacity (excluding backup equipment)
- Systems must operate at least 40 hours per week (2,000 hours per year)

F. Stakeholder Involvement

Customers, trade partners, and other stakeholders are currently engaged at the specific project level. Feedback is garnered individually from each participant and once a trend develops (positive or negative), the company makes a change to the product design. If it is a small change, it is then discussed internally and possibly with a few key trade partners and, if deemed acceptable, implemented. A larger change would possibly involve review by the product's external technical resources or other third party consultant.

G. Rebate Levels

The Compressed Air Efficiency Product helps customers lower operating costs by offering rebates on compressed air studies and by providing rebates on compressed air equipment. Rebates apply to new and leased equipment, but not to used equipment. All rebates are subject to Product-Specific Policies (Section E) and Program-Level Policies (Business Program, Section E).

Study rebates levels are described in the filed Planning Assumptions and are described in the study funding application and the company web site.

Prescriptive rebates for compressed air equipment are available for no loss air drains and select variable speed drive compressors. Prescriptive rebate levels are shown in the Planning Assumptions, rebate application, and company web site.

In 2012, the product provides custom rebates for all other compressed air energy saving projects of up to $600 per kW saved. The rebate level is a continuation of the 2011 rebate established by the 2011 Settlement agreement and is a 50% increase over the levels of other custom projects. In 2013, the Company anticipates that the rebate increase may be adjusted upward or downward depending on product performance and cost-effectiveness.

➢ Computer Efficiency Product

A. Description

The Computer Efficiency Product offers incentives to desktop personal computer (PC) manufacturers and low-end server manufacturers that produce and sell PCs with high efficiency power supplies or high efficient monitors to business customers in Xcel Energy's Colorado electric service territory and to business customers who implement a Virtual Desktop Infrastructure (VDI) strategy.

1) Upstream Manufacturer Incentives

The upstream manufacturer incentive components provide incentives to desktop personal computer (PC) manufacturers that design, install and deliver desktop computers with energy efficient power supplies to business customers in Xcel Energy's Colorado electric service territory.

This upstream component is administered through a third party, Ecos Plug Load Solutions (PLS) that develop and promotes their programs on behalf of utilities across North America. When units are shipped to qualified zip codes (as confirmed by the manufacturer) PLS pays the manufacturer incentives and provides a report and invoice to Xcel Energy for reimbursement.

Manufacturers who sign a participation agreement and turn in a claim form to PLS can receive incentives. The incentives and savings are prescriptive in nature. The PC incentive amounts are based on 56% of the incremental cost to the manufacturers for installing high efficient power supplies. The budget was developed by estimating the number of participants and multiplying by total cost per participant. The manufactures use this incentive to promote their efficient computers and to increase their number of products offered with high efficient power supplies.

2) Desktop PC Virtualization

This end-use customer component provides rebates to business customers who implement a Virtual Desktop Infrastructure (VDI) strategy. This strategy involves installing a VDI device instead of the traditional desktop PC. The VDI device has a lower operating wattage and uses less energy than traditional desktop computers. The VDI device communicates with a server to enable access to software applications and for the user to store data on the server rather than on their local hard drive.

This component is administered by Public Service and follows the methodology of Public Service's other prescriptive measures. Customers can apply for a prescriptive rebate of $60 per VDI installed. Rebate amounts are based on 52% of the incremental cost to the customer for the change-over to the VDI system. The budget was developed by estimating the number of participants and multiplying by total cost per participant.

B. Goals, Participants & Budgets

Goals and Participants

1) Upstream Manufacturer Incentives

Demand kW and energy kWh impact goals were determined from equipment wattages levels determined by Public Service based on information from PLS and ENERGY STAR. Participant levels for the upstream manufacturer incentives were determined by PLS based on their program experience in our Minnesota service territory.

The baseline technology is a computer meeting ENERGY STAR 3.0 specifications. The energy efficient technology is a computer meeting 80 Plus Bronze, Silver, Gold or Platinum criteria. Currently only computers meeting ENERGY STAR 5.0 meet these requirements. The overall net-to-gross (NTG) ratio is set at 0.88 based on the estimated market penetration of Bronze, Silver, Gold, and Platinum 80 Plus power supplies in Colorado as determined by PLS. Other utilities around the country are using an NTG of 1.0 for their corresponding programs.

2) Desktop PC Virtualization

As with the Upstream Manufacturer Incentive, the baseline technology for Desktop PC Virtualization is a desktop computer meeting ENERGY STAR 3.0 specifications. The net-to-gross ratio is set at 0.92 based on applying a market penetration percentage of efficient computers at five baseline levels. The assumption is, if our program was not in place, some of the customers that bought VDI boxes would have bought desktop computers at ENERGY STAR 4.0 or higher; not all would have bought ENERGY STAR 3.0.

The number of participants per year for Desktop PC Virtualization was estimated by Public Service's customer base and market potential based on vendor comments on market size.

Budget

For the Computer Efficiency Product, rebates, program administration, labor and promotions drive most of the budget.

- Program Administration and Delivery: PLS charges an administrative fee per each unit shipped (manufacturer incentive measure only). Internal administrative labor charges were determined by estimating the number of full-time employees needed to manage the product and execute the marketing strategy and incentive process. Manufacturer incentives that are retained by the manufacturer for promotion and product development are budgeted in this category.
- Advertising, Promotions and Consumer Education: The estimated promotional budget anticipates costs for contribution to the general conservation advertising campaign.
- Participant Rebates: The estimated participant rebates accounts for cost offsets to the incremental capital costs included in the technical assumptions. These rebates may take the form of a direct rebate to program participants, or a reduction in the ultimate cost the program participant's pay for the equipment.
- Measurement & Verification: The estimated M&V budget anticipates costs for both third-party customer on-site visits as well as third-party customer follow up communications detailed in Section G.

C. Application Process

Manufacturers learn of the upstream incentives and the benefits through marketing by PLS. Interested manufacturers can sign up to participate in the program by contacting PLS directly.

End-use customers will learn about the prescriptive rebates for VDI through marketing by Public Service. Customers will apply for rebates through an application process managed by Public Service. Applications for the product are available both on Xcel Energy's website. The application process for the prescriptive product is similar to our other prescriptive products. Customers may apply for rebates by completing the application and providing a detailed invoice and specification sheet for the newly installed equipment. The customers may submit for a rebate after the equipment has been purchased and installed. The equipment must be new and meet all the qualifications detailed on the application. After the customer has installed the equipment, the application and invoice must be submitted to Public Service within twelve months of the invoice date. Once the paperwork is completed and submitted, rebate checks will be mailed to the customer as indicated on the application within six to eight weeks. Participants in the product may submit their application to their account manager or the Business Solutions Center.

D. Marketing Objectives, Goals, & Strategy

The primary marketing efforts for the manufacturer incentives will revolve around PLS connecting with computer manufacturers to continue increasing program participation with additional manufactures. Public Service will educate the benefits of purchasing high efficient computers to our business customers through newsletters, Business Solution Center representatives, and our website.

VDI product challenges include customer awareness, incremental customer costs, and transforming manufacturer mind-set around the technology. Public Service will promote the technology through the trade, newsletters, Business Solution Center representatives, and our website.

The Computer Efficiency Product also intends to continue to develop prescriptive rebates to add to the portfolio including power management and high efficient monitors.

E. Product-Specific Policies

For the upstream manufacturer incentive, manufacturers must submit a rebate claim form to PLS within 12 months of unit delivery to receive a rebate.

For the end-use customer rebates, all equipment rebated through the measure must be new and meet all measure rules and requirements and the application must be submitted within twelve months of the invoice date.

F. Stakeholder Involvement

Public Service consulted with equipment vendors for guidance when designing the Computer Efficiency Product for Colorado. These vendors provided insight into the types of products to rebate and the incremental and total equipment costs to be expected. Public Service will also rely on the trade to help promote the product to customers.

G. Rebate Levels

1) Upstream Manufacturer Incentives

It is unclear how much of the incentive paid to manufacturers is passed on to program participants in the form of reduced purchase cost. Because of this it was assumed that the incentives paid to manufacturers should not be included as a rebate. If there is evidence found that the incentive paid to manufacturers results in purchase costs lower than the incremental cost assumed in the technical assumptions, this reduction will be accounted as a rebate.

The incentive structure is listed below:

- $5 incentive for ENERGY STAR 5.0 / 80 Plus Bronze desktop power supplies
- $10 incentive for ENERGY STAR 5.0 / 80 Plus Silver desktop power supplies
- $15 incentive for ENERGY STAR 5.0 / 80 Plus Gold desktop power supplies
- $20 incentive for ENERGY STAR 5.0 / 80 Plus Platinum desktop power supplies

The proposed rebate levels average 56% of the incremental cost to the computer manufacturers. This level balances the cost-effectiveness of the product with the influential value to the manufacturer and a payback less than 3 years.

2) Desktop PC Virtualization

Business customers are paid $60 per desktop PC removed from their system and replaced with a "thin-client" or "zero-client" device.

The proposed rebate is 52% of the average incremental cost. This level provides a payback to the customer less than 3 years.

➢ Cooling Efficiency Product

A. Description

The Cooling Efficiency Product encourages Public Service business customers to choose the most efficient air conditioning equipment that best meets their needs. The product offers rebates in two tiers, new construction and retrofit, while focusing on the most common air conditioning equipment available, and encouraging customers to make the most appropriate equipment choice.

This product has broad applicability within the Business segment, as most businesses in Public Service's Colorado service area air condition their facilities, and cooling is typically the second or third largest user of electricity in a facility.

While every attempt is made to create prescriptive rebates for high efficiency options, some energy saving solutions require individual evaluations to determine cost-effectiveness. These projects are evaluated under the Custom Efficiency process and require preapproval following all of the guidelines of the Custom Efficiency Product.

Product participants receive rebates to help buy down the initial capital cost and shorten the payback period. The new equipment also provides better reliability and lower maintenance costs, as well as lower utility bills from energy savings. Public Service reviewed and adopted best practices for DSM product development and product structure from across the country. The Company also used the guidelines of the IECC International Energy Conservation Code 2009 for equipment definitions, standard formulas, and minimum recommended efficiencies. These sources along with Public Service's historical experience allowed the Company to develop influential prescriptive rebates that encourage the most efficient choice of equipment in the majority of equipment categories. For instance a 10 ton rooftop air-conditioner at 11.0 EER and a 10 ton rooftop air conditioner at 11.8 EER both qualify for rebates. The 11.0 EER unit is eligible for $650 while the 11.8 EER receives $1050.

The net-to-gross (NTG) was increased for 2012/2013 from .75 to .80. This was based on the recommendations from a 2010 Process and Impact Evaluation that expected an upward effect on the NTG after the removal of VAV boxes and Cooling towers from the 2010 prescriptive products. Both measures experienced high free-ridership during the 2007-2009 program years.

B. Goals, Participants & Budgets

Goals and Participants

Cooling Efficiency goals are based on the achievements of past years, estimates of market penetration and a review of potential cooling technology improvements in the area of efficiency.

Participation was derived from the prior year's (2011) goal which saw an increase in all rebate levels and the introduction of two new prescriptive rebates. Additional factors included feedback from trade partners, 2010 and 2011 product trends, average project size, and historical participation.

Budgets

Once goals were established, the budget process is generally the same for Cooling Efficiency as with the other DSM products. Historical cost and participation information is tracked and analyzed to project budgets in advance. Furthermore, external resources and discussion with local stakeholders are used to ascertain expenditures and market equipment cost. Comparative spending analysis of past year activity is generally conducted but is not the determining annual factor, since other external variables like promotions, materials, and staffing exist.

For the Cooling Efficiency Product, rebates, labor, promotions and consulting drive most of the budget. The following was used to identify these specific drivers.

- Rebates: Developed using the average project rebate cost from the detailed technical assumptions and multiplying by anticipated participation.
- Labor Charges: determined by estimating the number of full-time employees needed to manage the product and execute the marketing strategy and rebate process.
- Promotions: The estimated promotional budget anticipates several customer and trade communications during the year and a contribution to the general conservation advertising campaign.
- Consulting: The Company also receives consulting and professional services from the University of Wisconsin's Heating, Ventilating, Air Conditioning and Refrigeration Consortium and analytical services from outside consultants for Custom cooling projects

C. Application Process

Applications for the product are available both on Xcel Energy's website and from trade allies. The application process for the prescriptive product is similar to our other prescriptive products. Customers may apply for rebates by completing the application and providing a detailed invoice for the newly installed equipment. The customers may submit for a rebate after the equipment has been purchased and installed. The equipment must be new and meet all the qualifications detailed on the application. After the customer has installed the equipment, the application and invoice must be submitted to Public Service within twelve months of the invoice date. Once the paperwork is completed and submitted, rebate checks will be mailed to the customer as indicated on the application within six to eight weeks. Participants in the product may submit their application to their account manager or the Business Solutions Center.

Customers with projects that save cooling energy but do not have a corresponding prescriptive rebate can participate in the Custom component of the product. Custom cooling is governed by all of the requirements of the Custom Efficiency Product including pre-approval.

The sales cycle for cooling projects is typically influenced by the size and complexity of equipment. It may take two years to study, purchase and install a new, large system, while smaller rooftop units can take only two weeks to replace. For this reason, the Cooling Efficiency Product makes every effort to remind customers to evaluate high efficiency options when they are faced with a purchasing decision.

D. Marketing Objectives, Goals, & Strategy

The Cooling Efficiency Product creates a base level of knowledge in the marketplace through newsletters and direct mail to customers and trade allies. These tactics make customers aware of the key benefits of energy efficiency and its applicability to cooling systems, and gives the trade a platform from which to educate customers on high efficiency solutions for their particular applications. The product provides literature and tools for the customers and trade to evaluate rebates and incorporate them into purchase decisions. In addition, customers are served by Public Service's Account Managers and Business Solutions Center representatives who educate them on energy efficiency, evaluating rebate potential, and the rebate application process. The trade can find similar assistance through the Trade Relations Manager. The Cooling Efficiency Product also benefits from opportunities identified for participants in the Energy Analysis and Recommissioning Products.

Marketing communications will revolve around the benefits of energy efficiency through paybacks, lifecycle costs, and environmental benefits. Newer cooling equipment is typically more efficient, more reliable and may have more effective controls than an older system providing both energy and non energy benefits to the end user. Public Service uses generally accepted information from sources such as ENERGY STAR®, the American Society of Heating, Refrigeration and Air-conditioning Engineers, the Federal Energy Management Product, and others to educate customers on no and low cost ways to save energy, such as performing regularly scheduled maintenance and simple tune up tips to ensure systems are operating optimally.

To reach its energy savings goal, Cooling Efficiency needs to continue to penetrate the centrifugal chiller market. These systems provide the largest per project savings for the lowest transactional costs, making them the most cost-effective opportunities. The product has been successful in penetrating this market through strong relationships between Public Service account managers and customers and increasingly strong relationships with the trade. Custom cooling strategies, such as cooling controls and energy recovery ventilators, have also been identified as an area of growth. Rooftop units, condensing units, and split systems round out the portfolio with high participation and moderate savings. Future strategies will involve more online tools to help customers evaluate the benefits of high efficiency equipment. Rebate and payback calculators, as well as lifecycle costing tools, have recently been developed for vendors and customers to improve their decision making process when purchasing equipment. Online submission of rebate applications will also be a priority. The product also intends to continue to develop prescriptive rebates to add to the portfolio including energy recovery.

E. Product-Specific Policies

The Cooling Efficiency Product does not rebate back up equipment since assumed energy savings will not be realized.

F. Stakeholder Involvement

Because cooling systems can be very complex, trade support is imperative to achieving our goals. We have engaged trade allies in product design and improvement through the creation of the Cooling Council. This group meets about once per quarter to discuss new technologies, product issues, and general market topics. The Cooling Council members are representatives from all levels

of the cooling equipment distribution chain. Members include manufacturer's representatives, mechanical engineering firms, and equipment contractors. Public Service has been hosting these meetings for the last two years and has found great success in improving communication and identifying new ways to evaluate cooling equipment in the current market. We look forward to continuing future meetings and improving the delivery of the cooling efficiency product.

G. Rebate Levels

Most of the components of the product provide prescriptive rebates based on the size of the unit in tons combined with an efficiency bonus to encourage customers to exceed minimum qualifying efficiencies. The rebate structure by component is listed below:

EQUIPMENT		MINIMUM TO QUALIFY	REBATE
PTACs		11.0 EER	$65/ton + $5/ton for every 0.1 EER above min
Water-Source Heat Pumps		14.0 EER	$65/ton + $5/ton for every 0.1 EER above min
Rooftop AC Units			$65/ton + $5/ton for every 0.1 EER above min
	< 65,000 BTUH (<5.4 tons)	13.5 SEER	$65/ton + $5/ton for every 0.1 EER above min
	65,000 - 135,000 (5.5 - 11.3 tons)	11.0 EER	$65/ton + $5/ton for every 0.1 EER above min
	135,000 - 240,000 (11.4 - 19.9 tons)	10.8 EER	$65/ton + $5/ton for every 0.1 EER above min
	240,000 - 760,000 (20 - 63.3 tons)	9.8 EER	$65/ton + $5/ton for every 0.1 EER above min
	> 760,000 (> 63.3 tons)	9.4 EER	$65/ton + $5/ton for every 0.1 EER above min
Condensing Units	>65,000 BTUH (>5.4 tons)	11.0 EER	$65/ton + $5/ton for every 0.1 EER above min
	>/= 65,000 BTUH and ≥ 5.4 tons	11.0 EER	$65/ton + $5/ton for every 0.1 EER above min
Split Systems	< 65,000 BTUH and < 5.4 tons	14.0 SEER	$65/ton + $5/ton for every 0.1 EER above min
Air Cooled Chillers		10 EER	$8/ton + $1.50/ton per FLV + $.75/ton per IPLV for every 0.1 EER above min
Chillers - Scroll or Rotary Screw	< 150 Tons	0.74 kW / ton	$15/ton + $2/ton per FLV + $1.5/ton per IPLV for every 0.01 kW/ton below max
	>/=150 tons and < 300 tons	0.67 kW / ton	$15/ton + $2/ton per FLV + $1.5/ton per IPLV for every 0.01 kW/ton below max
Chillers - Centrifugal	All sizes	Determined by ASHRAE 90.1 2004	$15/ton + $2/ton per FLV + $1.5/ton per IPLV for every 0.01 kW/ton below max
Advanced Evaporative Cooling (Indirect or Hybrid) - (replacing or installing in lieu of DX Roof Top Unit)	All sizes		$750 per 1,600 CFM
Plate and Frame Heat Exchangers	All sizes	Only for chillers without air side economizers installed	up to $400/ton, based on wet bulb onset temperature
VFD's on Chillers	All sizes	Determined by existing chiller performance specifications	$1.5/ton per IPLV for every 0.01 kW/ton below max

Generally, Public Service has set the minimum qualifying efficiency at a point that nominally exceeds the IECC minimum efficiency requirements to encourage customers to purchase the most efficient equipment, while ensuring the manufacturers have equipment that meets the criteria of the product.

The proposed rebate levels average 50% of the incremental cost. This level balances the cost-effectiveness of the product with the incentive needed to motivate the customer to purchase high efficiency equipment, achieving a payback of less than five years in most cases. Rebates are designed to buy down the incremental cost of purchasing high efficient equipment, which is increasing with the stricter code requirements in the market.

➢ Custom Efficiency Product

A. Description

The Custom Efficiency Product (Custom) is designed to provide rebates on a wide variety of equipment and process improvements that do not fall within Public Service's prescriptive rebate products. Similar to prescriptive products, the primary goal is to obtain verifiable and persistent on-peak electric demand reduction and energy savings in the Colorado service area.

The Custom product is designed to incorporate measures that save demand and/or energy, but currently are not included in any of the prescriptive rebate products. Each measure must be screened using a detailed engineering analysis. The analysis is described in more detail in Section C. Key criteria used to screen the measures include:

- Evidence that the measure is cost-effective to the customer and Public Service include:
  - Simple payback before rebate of over 1 year.
  - A Modified Total Resource Cost Test (MTRC) ratio of greater than or equal to 1.0.
- Evidence of measure persistence which could include:
  - A measure life of 10 years or greater.
  - Description that supports permanent installation
  - Capital investment undertaken by customer.
  - Independent, third party verification if technology is new to the marketplace.
  - Other research conducted for energy efficiency technologies that demonstrate persistence (e.g., utility impact evaluations, DOE lab testing of technologies).

Many types of energy saving measures are not currently eligible for a prescriptive rebate, but could be eligible for a Custom rebate, including the measures listed in the table below.

Equipment	Application
Compressed Air	New equipment, reduction in horsepower (hp) of compressors, storage, vacuum pumps, and variable frequency drive compressors
Controls	CO_2 based ventilation, compressed air and refrigeration controls
Cooling	Economizers, heat exchangers, and ventilation fans
Lighting	Lumen output changes, exterior lighting, LED and daylighting, retrofits not one to one
Miscellaneous	Energy efficient windows (film, argon, Low E), humidification, insulation, printing presses, welders, and elevator modernization (DC to AC motor conversion)
Motors & Drives	Motors > 500 hp. Drives > 200 hp and outside the prescriptive program parameters.
Refrigeration	Ammonia compressors, freezer doors, and evaporative condensers
Process changes	New system produces more output than the old system while using the same amount of energy as the old system. New system produces the same output as the old system using less energy. Reconfigure system layout.

The Company's engineering team determines if a project is covered under Public Service's prescriptive products and, if not covered, whether it warrants analysis through Custom. The product team then conducts the analysis to determine rebate eligibility. Any assumptions made in the review of a project are clearly documented within the analysis and all projects of a similar type are reviewed using the same set of assumptions. The review process typically is completed within two weeks of receiving an application.

B. Goals, Participants & Budgets

Goals and Participants

The estimated goals for the Custom Efficiency Product are heavily dependent on the specific projects that come in. For this 2012-13 Plan, Public Service has used both historical performance and those projects that are in the pipeline to get a sense of the number and magnitude of future projects.

Participation was derived from historical performance over the last three years and in particular from 2009 and 2010 activity.

Budgets

Once goals were established, the budget process is generally the same for Custom Efficiency as with the other DSM products. Historical cost and participation information is tracked and analyzed to project future budgets. Comparative spending analysis of past year activity is conducted but is not the determining annual factor, since other external variables like promotions, materials and staffing exist.

For the Custom Efficiency Product, labor, advertising, and rebates drive the vast majority of the budget. The following is information pertaining to these specific drivers:

- Internal labor – Custom Efficiency is a labor-intensive product due to the preapproval process and analysis component of the product. Labor is typically more than half of the total cost of the product.
- Advertising – The custom corporate advertising budget was a significant portion of the total 2010 business portfolio expenditure.
- Rebates – The budget for rebates is established by estimating participation for the product and multiplying by the rebate per kW amount in the technical assumption models.

C. Application Process

The application process for Custom is more involved than for the prescriptive products. Each project must be evaluated to assure it meets the eligibility requirements. This process can be broken into five distinct steps: Application Submission, Application Review, Project Analysis, Project Acceptance or Rejection, and Project Completion:

1. Application Submission

Public Service account managers and/or Business Solutions Center (BSC) representatives work with a customer and their vendor to identify a project with energy efficiency opportunities and start the application process. The application form is available from the account manager, BSC, Xcel Energy website or from the product team (product manager and marketing assistant) . Applications must contain a well-defined scope of work with enough detail to allow Public Service's engineers to analyze the savings opportunities. Applications must be signed by the customer but can be submitted by others on their behalf, including: building owners; lighting, HVAC, refrigeration, or building controls contractors; architecture and engineering firms; energy services companies; equipment manufacturers and distributors; or project financing entities.

2. Application Review

The product team receives the completed application from the account manager or BSC representative. The application is reviewed for completeness of information. This process is in conjunction with a technical consultant review prior to the information being officially submitted. Once the product team and technical consultant determine all necessary information has been provided, a project number is assigned and the application is entered into the program database.

3. Project Analysis

Analysis of the project begins with our internal technical staff. Engineers review the project information and enter pertinent data into a spreadsheet Total Resource Cost (TRC) model to determine the projected energy savings, benefit/cost ratio and payback. The model calculates energy savings for various end-uses (lighting, motors, cooling, compressed air, etc.) to ensure consistency in analysis from one project to another. All calculations are based on approved ASHRAE methods or other similar industry standards. Based on the modeled results, the project will either pass or fail.

4. Project Acceptance or Rejection

Once engineering has completed the analysis, a preapproval or rejection letter is sent to the customer. The letter provides critical information regarding the project, including: project rebate amount, project description and costs, and any conditions that must be met to receive the rebate (e.g., measurement and verification). In 2011 energy savings information was provided along with

the preapproval letter to help the customer understand the rebate amount and estimated energy savings. This procedure will continue in 2012 and 2013. Should a project be rejected, a rejection letter is sent informing the customer that their project will not be eligible and explaining why. A copy of the preapproval/rejection letter is also sent to the account manager. The marketing assistant collects all project documentation, including the application, specification sheets, proposals, and analysis, and stores it in the product files (both electronically and in hard copy).

5. Project Completion

When a project is completed, the customer will inform their account manager. The customer and account manager sign the verification section of the application and submit it to the product manager along with copies of invoices and other required information as stipulated in the preapproval letter. The product manager reviews final documentation for accuracy and completeness. Should clarification or additional materials be needed the product team will coordinate with the account manager to obtain the information from the customer. If the final documentation matches the preapproved project information, the product manager will approve the project and submit paperwork to rebate operations for issuance of the rebate check.

Occasionally, projects must undergo re-analysis because the final project parameters do not match the original project application. This may be due to minor changes in project scope, changes in final project cost, or the purchasing of similar, but not identical, equipment to what was analyzed during the preapproval analysis. In these cases, the actual project information will be given to the technical staff for review and re-analysis. The original analysis will be updated with the new information to determine if the project still meets passing criteria. A passing project will be awarded a rebate based on the calculated savings from the updated analysis. A project that fails on re-analysis will not be issued a rebate.

D. Marketing Objectives, Goals, & Strategy

Marketing Strategy

Marketing of the Custom Efficiency Product is conducted primarily through account managers and their direct relationships with customers. In addition, we will use the following strategies to achieve our goals in 2012 and 2013:

Target Industrial Customers. Colorado's industrial base is relatively small, but these few customers offer tremendous opportunity. Many of the opportunities will come from specialized applications or processes requiring a greater insight into the individual customer's operations. To achieve this, we will rely heavily on leads from account managers and outreach to the vendor community.

Business Solutions Center (BSC). The BSC implemented a new dedicated personnel resource strategy for business customers in 2010. This new strategy is geared toward non-managed accounts and provides additional Xcel employees to manage DSM sales activities for our mid-market customers.

Use of Collateral. Public Service has developed a wealth of marketing collateral for the Custom Efficiency Product. This information is available in electronic format on Xcel Energy's web

site and hard copy format for customers, trade allies, and internal Public Service staff. This material is continually reviewed and revised based on feedback from participants and as changes are made to the product. The key collateral includes:

- **Custom Efficiency Brochure** – This is the primary tool for account managers that helps describe the product to customers and trade allies. It provides examples of projects that may qualify, business reasons to participate, and a summary of the procedures to follow.
- **List of potential projects** – Projects that have fared well in Colorado and Minnesota serve as the basis for this list. The list includes both electric and natural gas conservation measures.
- **Custom Efficiency Worksheets** – The application itself is general in nature and does not provide enough direction on additional material needed for each technology. Therefore, Public Service created worksheets that cover some of the more common technologies that are submitted for analysis. Existing worksheets include:
    - Custom Efficiency - Lighting Worksheet
    - Custom Efficiency - Motor Worksheet
    - Custom Efficiency – Variable Frequency Drive (VFD) Worksheet
    - Custom Efficiency - Elevator Worksheet
    - Custom Efficiency - Window Worksheet
    - Custom Efficiency – Roofing Worksheet
- **Trade Ally website** – This resource was designed specifically for all of the trade allies involved with Public Service DSM products. The website includes all of the collateral indicated above and other helpful information.
- **Energy Exchange** – a quarterly email newsletter that goes out to all trade allies who have registered to be part of our trade ally network.
- **Custom specific workshops** – workshops will be conducted for vendors and/or customers to communicate project opportunities specific to custom end use situations.

Target Market

As with the other business rebate products, the bulk of savings is anticipated to come from the large commercial and industrial segment. The Custom Efficiency Product has an even greater reliance on this segment as most projects are from customers involved in manufacturing and processing. Approximately 80% of these customers are concentrated within the Denver metro area, which will enable us to provide concentrated marketing campaigns on the Front Range. Account managers manage the largest 800 accounts. We will continue to target mid-market customers out side of the Denver metro area with on-site workshops.

A key difference between Xcel Energy's Colorado and Minnesota service territories is the size of the industrial base. Minnesota has approximately ten times the number of industrial customers as Colorado. The lack of industrial base in Colorado has dictated that the Product team develop a marketing approach that targets mid market to small business customers. The new resource focus from the BSC will help address and target market to this customer segment

E. Product-Specific Policies

All Custom projects require preapproval before order, purchase, and installation; a TRC ratio of equal to or greater than 1.0; and a simple payback criteria of over one year. Rebates are capped at

60 percent of the incremental project cost. This process is in place to help ensure free-ridership is kept to a minimum and that rebates are awarded to projects that are technically and financially sound.

F. Stakeholder Involvement

Customers, trade allies, and other stakeholders are currently engaged at the specific project level. Feedback is garnered individually from each participant and once a trend develops (positive or negative), Public Service makes a change to the product design. If it is a small change, it is then discussed internally and possibly with a few key trade allies and, if deemed acceptable, implemented.

G. Rebate Levels

Rebates apply to new and leased equipment, but not to used equipment. To determine eligibility for a rebate, all projects are analyzed as described in the application process. Rebates are calculated based on the demand savings of the project. Additional information on this process is described in the technical assumptions section. For 2012 and 2013, Public Service is maintaining an incentive level of $400 per kW for electric savings projects and $4 per Dth for gas savings projects.

➢ Data Center Efficiency Product

A. Description

The Data Center Efficiency Product is designed to help customers address energy conservation opportunities in both new and existing data centers. This specialized product was designed in response to the significant energy savings potential for the customer, and the projected growth in energy use in data centers over the next several years.

There are numerous ways data centers can become more energy efficient including the following:

- High Efficiency Servers
- Server Virtualization/Consolidation
- Airflow Improvements
- Electrical Equipment
- High-Efficiency Cooling
- Humidification
- Power Systems
- High-Efficiency Lighting

Any size data center may participate, and the program will include options for new and existing data center customers, encouraging a holistic approach to energy efficiency within the data center when feasible for the customer.

For existing facilities, the product will provide funding toward an onsite evaluation and analysis, and rebates based on the demand savings resulting from implementing energy conservation opportunities recommended in the study. Additionally, individual projects will be analyzed and rebated using a custom model. New Construction design assistance will be available as well. Study paths will utilize a third party expert for the analysis.

Current prescriptive, high-efficiency cooling and lighting equipment rebates will be available and, in time, new prescriptive rebates will be developed for technologies as standardized data becomes available.

Public Service Co. will review qualifications to identify third parties to perform data center studies and analysis. As a result of that process, the Company will maintain a list of qualified contractors whose studies may be rebated by Public Service. If the facility also participates in the Energy Design Assistance Product, that contractor will partner with a study provider for analysis of the data center portion of the project.

B. Goals, Participants & Budgets

<u>Goals and Participants</u>

The demand, energy and participant goals were determined by looking at historic product participation and identified projects since the 2009 product launch. A logical division of data center square footage size was applied based on actual participation, and the estimated savings of the individual measures were calculated and totaled. The kW demand savings of installed projects as a result of a data center analysis will determine energy savings. Energy conservation opportunities are identified within the study report and within custom projects.

Budgets

Service built the goals and budgets for this product from the historic numbers available since launch, described above. The largest cost in the budget is for implementation and study rebates, which represent more than 60% of the overall product budget.

C. Application Process

Customers will learn about the product through a variety of channels, including: the Xcel Energy website, account managers, Business Solutions Center representatives, and trade allies. In addition, the Company will recruit data center experts to help promote the product to customers. Product applications will be made available through all of these channels. Customers may submit an application through their account manager, trade allies or by mailing or emailing it to Public Service.

Customers building a new data center need to submit their application in the early phases of design to ensure our recommended strategies are included in final design plans. The data center design study will follow the existing Energy Design Assistance Product guidelines

Preapproval is required for participation and rebates.

D. Marketing Objectives, Goals, & Strategy

The goal of the Data Center Efficiency Product is to build and retrofit data centers, with their copious electronic equipment, to be as efficient as possible. Because the market for this product is so specific, Public Service will have account management focused on data center customers. It will be necessary to provide good face-to-face contact with our customer base in order to engage them in the product. Research on this customer segment suggests that data center customers look to their utilities to be the energy expert.

The marketing strategy for Data Center Efficiency will include a variety of channels, including account managers, trade relations managers, professional organizations, and direct customer communications. Tactics include, but are not limited to, the creation of collateral materials, newsletter articles, direct mail campaigns, advertising, and event marketing outreach.

E. Product-Specific Policies

Customers may perform a study by selecting a pre-qualified Data Center Efficiency study provider, or select another provider of their choice. New providers will be required to submit qualifications prior to receiving study funding approval.

Measures identified within a study will be evaluated together as one project, based on the customer's indication of implementation plans. The cost-benefit analysis will be calculated on the aggregated NPV costs and benefits of the bundled project. The rebate will be calculated based on the savings.

Rebate/energy savings validity: If at least two years has passed since a project was approved, the technical staff will re-analyze it with current energy rates to determine if the savings/payback has changed. This re-analysis is conducted prior to issuing a rebate check.

F. Stakeholder Involvement

As part of the product design effort prior to the 2009 product launch, Public Service conducted focus groups with data center facility managers and one-on-one interviews with information technology executives in order to better understand their needs and interest in energy efficiency. Some of the recommendations resulting from the focus groups were to create:

- An audit product that is specific to data centers and utilizes experts in data center design and operation.
- Audit products so they are more dynamic and better reflect the nature of the data center;
- Materials to help data centers select energy efficient equipment.
- Materials that show how a carefully managed, energy efficient data center may be more reliable than a standard data center. Connect reliability to energy efficiency.
- A quick "hit list" of things that data center operators should be aware of to aid in conservation of energy.
- Products to increase the awareness that information technology strategies have an impact on energy conservation in a facility.

All of these ideas have been considered and most of them included in the existing product. We plan to continue to develop collateral and education materials to support the product as the conversation around data center efficiency matures. As we receive customer participant feedback, we will evaluate feasibility of incorporating changes into the product whenever possible.

Xcel Energy has been an active participant in the Consortium for Energy Efficiency (CEE) Data Centers and Servers workgroup where we are working collaboratively with other utilities, striving for energy efficiency standards for data center equipment and sharing knowledge as individual data center efficiency products are developed.

G. Rebate Levels

Data Center Efficiency studies for existing facilities will be rebated up to 75% of the incremental study cost not to exceed $25,000. This cap may be reevaluated if a very large data center is being reviewed. Prescriptive rebates will be applied where applicable, and all other energy efficiency upgrades will be handled through a custom-type analysis.

Individual projects will be rebated at up to $400 per kW saved.

➢ Energy Management Systems Product

A. Description

The Energy Management Systems (EMS) Product is designed to offer customers rebates for installing systems that control and reduce a building's energy usage both on and off-peak. Electric and gas customers are eligible for participation in this product.

An energy management system is a system of controls and sensors that are centrally operated, typically via a computer software package. Through automatic programming, such systems may control the heating, cooling, ventilation, and lighting in a facility. Systems covered in the product include new energy management systems in an existing building, replacing a non-functional energy management system, replacing an obsolete energy management system, or adding functionality to a current system. The duplication of existing systems does not qualify for rebate under the EMS product. Potential measures that fit well into the product are shown in the diagram below.

Scheduling	**Resets**	**Miscellaneous**
• Holiday scheduling • Zonal scheduling • Override control and tenant billing • Night setup/setback • Optimum start • Optimum stop • Morning warm-up/cool-down	• Supply air/discharge air temperature • Hot deck and cold deck temperature • Entering condenser water temperature • Chilled water supply temperature • VAV fan duct pressure and flow • Chilled water pressure	• Simultaneous heating/cooling control • Zone-based HVAC control • Dual duck deck control • Chiller staging • Boiler control • Building space pressure • Variable speed drive control • Heat recovery
Ventilation Control	**Lockouts**	**Lighting**
• Carbon dioxide • Occupancy sensors • Supply air volume/OSA damper compensation routines • Exhaust fans	• Boiler system • Chiller system • Direct expansion compressor cooling • Resistance heat	• Lighting sweep • Occupancy sensors • Daylight dimming • Zonal lighting control
Air-Side Economizers	**Energy Monitoring**	**Demand Control**
• Typical air-side • Night ventilation purge	• Whole building or end-use • KWh or demand	• Demand limiting or load shedding • Sequential startup of equipment • Duty cycling
Source: Energy Management Systems A Practical Guide, O&M Best Practices Series, Portland Energy Conservation Inc.		

B. Goals, Participation & Budgets

Goals and Participants

For 2012-2013, goals were established at the portfolio level by the company's management team, considering recent trends and longer-term experience. The team also reviewed all DSM Product goals and completed an initial allocation of the goals to each product. This allocation was based primarily on a review of product performance for the past three and half years, longer-term experience with similar products in Minnesota, and the allocation from the prior year's (2011) goal.

Participation was derived from trade participant feedback, recent product trends, average project size and historical participation in the Minnesota product as well as an evaluation of market and economic trends.

Budgets

To develop the 2012-2013 budgets, the company used the historical performance (costs and participation) of the product as a guide. The vast majority of the product's budget is driven by rebates, consulting, and labor.

- **Rebates –** The budget for rebates is estimated by looking at historical data and then checking anticipated payouts per kW and kWh to check for reasonableness.
- **Third party consulting –** Initial project analysis duties continue to be from a third party consultant, whose work is reviewed by our in-house engineering staff. The consultant also continues to provide measurement and verification (M&V) duties.
- **Internal labor –** EMS is a labor-intensive product due to the preapproval process and analysis component of the product. Labor is approximately one fifth of the total cost of the product.

C. Application Process

The application process for the EMS product is similar to the Custom Efficiency product because each project must be individually analyzed. Applications must be signed by the customer but can be submitted by other participants including: building owners, contractors, engineering firms, energy services companies, and equipment vendors. Typically, the customer or a vendor selling to the customer identifies a project with energy efficiency opportunities and starts the application process. The general application steps and requirements are as follows:

1. Application Submission

Typically, the company's account manager works with a customer and their vendor to identify a project with energy efficiency opportunities and starts the application process. The application form is available from the account manager, Xcel Energy website or from the product manager. Applications must contain a well-defined scope of work with enough detail to allow the company's internal engineers to analyze the savings opportunities. Most applications include:

- General Building Information – Square footage, year built, building use type, and annual electric and gas use
- Types of Equipment In Use – Including lighting fans/air handling, cooling and heating, and each piece of equipments specifications and operating conditions.

- Process - Existing and new connected kW and operating hours; existing and new gas BTUh and full load hours
- Controls - Existing and new temperature setbacks and resets, outside air optimization, DDC conversions, variable air volume boxes

2. Application Review

Product Management receives the completed application from the account manager or Business Solutions Center (BSC) representative, and reviews the application for completeness. The review is in conjunction with an energy engineer review prior to the information being officially submitted. After the review, Product Management assigns a project number and enters the application into the tracking system.

3. Project Analysis

Our outside consultant completes the initial analysis of the project. The consultant reviews the project information and enters pertinent data into a spreadsheet model to determine the projected energy savings, benefit-cost ratio (i.e., TRC) and payback. The model for energy management systems was developed originally as the custom products model for Minnesota. The model was then adapted for differences in Colorado (e.g., different avoided costs, climate and other factors) and for EMS-specific calculations. The model is used to ensure consistency in analysis from one project to another. All calculations are based on approved ASHRAE methods or other similar industry standards.

Based on the modeled results, the consultant will approve or reject the project and forward the results to the company's internal engineering staff for review. Should an error be discovered, the internal engineer document it and send the information back to the external consultant for reanalysis. If everything was analyzed correctly, the company's engineer will approve the analysis.

4. Project Acceptance or Rejection

Once the company's engineer has approved the analysis, a preapproval or rejection letter is sent to the customer. The preapproval letter provides critical information regarding the project, including: the project rebate amount, the project description and costs, and any conditions, which must be met to receive the rebate (e.g., measurement and verification). Should a project be rejected, a rejection letter is sent informing the customer of why their project will not be eligible. A copy of the preapproval or rejection letter is also sent to the account manager for project tracking. All project information is then documented, including the application, specification sheets, proposals, and analysis, and stores it in both the electronic and hard copy product files.

5. Completion

The final step in the application process is verification that savings occurred. Payment of the rebate is dependent on verification of the results of the project. The customer first fills out the verification section of the application and provides invoices for the completed project. Customers may submit American Institute of Architects project continuation sheets in lieu of invoices.

D. Marketing Objectives, Goals, & Strategy

Marketing Strategy
Marketing of the EMS product is primarily conducted through account managers and their direct relationships with customers. In addition, the following strategies will help meet product goals in 2012-2013.

Use of Collateral
The company has developed and refined marketing collateral for the EMS product. This information is available in soft and hard copy format for customers, trade partners, and internal staff. Customers and trade partners can request hard copies of the material or they can access material on Xcel Energy's website. Internal staff involved with the product usually has hard copies available within their departments and can access material from the company's intranet site. The marketing material includes:

- **Product Brochure** – The primary tool for sales staff that helps describe the product to customers and vendors. It provides examples of projects that may qualify, business reasons to participate, and a summary of the procedures to follow.
- **Product Application** – The document that customers fill out to start the process of participation. The customer or vendor is asked to fill out several sections including information on the business location, account manager, applicable rates, project description, and technical information related to proposed and existing equipment, equipment supplier and project verification upon completion.
- **Project Worksheet** – This tool is used to gather all of the necessary information about the project and the building. This tool should be filled out to the best of the account manager and vendor's ability to make the analysis process smoother.
- **Payback Calculator** – This tool is a simple way to calculate whether a project is a good, fair or poor project in terms of passing payback and getting approved.

Improve Vendor Communications
The company will continue to communicate via email to all energy management system vendors. The email will reintroduce the product and remind vendors that the product exists and how they can take advantage of it with their customers. Communications will also include links to tools that will help with project analysis.

Other efforts to further strengthen relationships include:

- **Energy Exchange** - a quarterly email newsletter that goes out to all vendors who have registered to be part of our trade ally network.
- **Training Products** – We have also held product training for vendors. That was done when the product was launched. The company will hold future product training as it is deemed necessary.

Target Market
All electric commercial and industrial customers within the company's service area are eligible to participate. The bulk of energy management systems are installed in commercial facilities (office buildings, schools). Due to the complexity of the analysis process, it is unlikely small customers will have a high participation rate. The products focus will be on managed accounts and larger unmanaged accounts in Colorado. Approximately 80% of these customers are concentrated within

the Denver metro area, which will enable us to focus any marketing campaigns on the Front Range. Additional information on target markets includes:

Primary Market
The primary target is a large business customer that has some or all of the following characteristics:

- Demand of 500+ kW
- Have facilities built before the 1990s.
- Have interest in newer building automation technologies.
- Own facilities with large cooling or refrigeration needs

Secondary Market
The secondary target is a small business customer that has these characteristics:

- Demand of 100 kW to 500 kW
- Have limited internal resources to purchase, install and finance projects
- Have limited technical expertise

The product is also marketed to our trade partners, which primarily consists of:

- Manufacturers of equipment
- Installers
- Design engineers, architects and electricians

E. Product-Specific Policies

Much like the Custom Efficiency product, EMS projects require preapproval before any equipment is purchased or installed, must have a TRC ratio equal to or greater than one, and have a payback between one and ten years within our analysis. Preapproval must occur prior to purchase and installation of the equipment. Information pertaining to minimum requirements is included on the application.

F. Stakeholder Involvement

Customers, trade partners, and other stakeholders are currently engaged at the specific project level. Feedback is garnered individually from each participant. Once a trend develops (positive or negative), the company makes a change to the product design. If it is a small change, it is then discussed internally and possibly with a few key trade partners and, if deemed acceptable, implemented. A larger change would possibly involve review by the product's external technical resources or other third party consultant.

G. Rebate Levels

In 2012, the Energy Management Systems product offers rebates of up to $600 per kW. The rebate level is a continuation of the rebate established by the 2011 Settlement agreement, and is a 50% increase over the levels of other custom projects. In 2013 the company anticipates that the rebate increase may be adjusted upward or downward depending on product performance and cost-effectiveness.

Additionally, the product offers natural gas rebates of up to $4 per Dth saved. Promotional rebates may also be added, within the 125% portfolio budget flexibility to stimulate participation.

➢ Heating Efficiency

A. Description

Public Service's Heating Efficiency product provides rebates for business customers who purchase high efficiency natural gas or dual-fuel commercial equipment for space heating, water heating or process heating loads. Available rebates are designed to promote the installation of high-efficiency equipment that improves combustion and seasonal efficiency above standard levels. While this product is only available for Public Service's retail natural gas business customers, those who choose to switch from a third party gas provider can also be eligible. The product has several components which include; hot water boiler systems, furnaces, water heaters, boiler auxiliary equipment improvements, pipe insulation, boiler tune-ups and other unique (custom) heating systems. The details for each product measure are described below.

1) Hot Water Boiler Systems

- Public Service rebates hot water boilers that exceed the minimum efficiency levels established by the ASHRAE 90.1 Energy Standard and the Federal Energy Management Program (FEMP). Rebates cover three scenarios:
- Plan A-1 – Boilers equal to or above 85% efficiency
- Plan A-2 – Boilers equal to or above 92% efficiency – Rebate for the installation of a new condensing boiler where either no previous boiler existed, or the current boiler is no longer functional
- Plan B – Boilers equal to or greater than 92% efficiency – Early replacement rebate for the installation of a new condensing boiler where the customer's existing boiler is currently functioning and within the assumed lifetime of the equipment. Rebate amount is set higher than Plan A-2 to better incentivize the customer to remove functional, but lower efficiency equipment, and make a change to a higher efficiency system

2) Furnaces

Furnaces must have a minimum efficiency of 92% Annual Fuel Utilization Efficiency (AFUE), in line with ENERGY STAR®. Furnaces of 94% AFUE or higher efficiency receive a larger rebate.

3) Water Heater Systems

Public Service rebates commercial water heating systems that exceed the minimum efficiency levels established by the ASHRAE 90.1 Energy Standard and FEMP. These can be either:
Tankless or with storage – systems greater than 150,000 BTUh and more than 92% efficiency

4) Boiler Auxiliary Equipment Improvements

The performance of a boiler system can be enhanced with controls and system efficiency improvements. Boiler auxiliary equipment rebates are based on the incremental cost of efficient equipment and are calculated based on a percentage of the project cost (i.e. how much it cost to perform that portion of the project, not the entire project cost.) The following will be rebated:

a) Boiler Tune-Ups must include the following activities in order to qualify:
- Measurement of combustion efficiency using an electronic flue gas analyzer at steady state conditions
- Adjustment of air flow and reduction of excessive stack temperatures
- Adjustment of burner and gas input, manual or motorized draft control
- Cleaning of burners, combustion chamber and heat exchanger surface, when weather or operating schedule permits
- Cleaning and inspecting the burner nozzles
- Checking for proper venting
- Completing visual inspection of system piping and insulation
- Checking safety controls
- Checking adequacy of combustion air intake

b) Boiler Efficiency Retrofits:
- Modular burner controls (addition of controls to existing equipment)
  5:1 turndown ratio or greater
- Outdoor air reset controls
- Stack dampers
- Steam trap replacement/parts

c) Pipe Insulation:
- Rebates are available for insulation of hot water or steam pipes. Rebate is based on linear feet and the thickness of the insulation installed.

5) Custom Boilers

Heating solutions that save energy but are not covered under the prescriptive rebate offerings may still be eligible for a custom Heating Efficiency rebate. These projects require individual evaluation to determine how much energy will be saved and ensure that it is cost-effective. Projects evaluated using the Custom Efficiency process require preapproval and must conform to all of the Custom Efficiency product guidelines.
Projects that typically fall under the custom category include, but are not limited to;

- Large boiler systems (greater than 10 million BTUH)
- Carwash boilers
- Pool boilers
- Boiler control systems
- Process loads

B. Goals, Participants & Budgets

Participation in the Product increased rapidly through the first few years of the product being available in Colorado. As we continue to gather additional market specific information we are able to refine our calculation inputs. The average savings taken from these calculations was used for the benefit-to-cost analysis. Reported energy savings for the Product will be determined by using project specific inputs of actual heating efficiency equipment and efficiency.
Once goals were established, the budget process is generally the same for Heating Efficiency as with the other DSM Products.

Forecasted Participation
Pipeline and market potential have been used to determine Product participation through 2013 in our Colorado service area. The sharp increase in participation witnessed over the first two years will begin to flatten out as the market matures. Steady state should be reached midway through 2012. We will continue to review new prescriptive products identified through the Custom Product as technology improves and markets change.

Budgets

For the Heating Efficiency Product, rebates are the largest expense with promotions and labor also being factors. The following was used to identify these specific drivers.

- **Rebates**: calculated using average rebate cost per Dth and the gas savings goal.
- **Promotions**: the estimated promotional budget anticipates several customer and trade communications during the year. Promotional dollars are important to build upon the awareness we have created and provide education about the benefits of high efficiency heating systems.
- **Labor**: determined by estimating the number of full-time employees needed to manage the Product and execute the marketing strategy and rebate process.

C. Application Process

Applications for the Product will be available on the Xcel Energy and Responsible by Nature web sites, as well as hard copies delivered by account representatives and trade allies. Participants in the Product may submit their application through their account manager or via the Efficiency Specialist group of the Business Solutions Center. Customers must apply for rebates within 12 months of equipment purchase and start-up. Participants are required to complete an application, provide manufacturer equipment specifications and an invoice as proof of purchase. For Plan B boilers, customers must provide additional information including the most current Colorado State boiler inspection report indicating that the unit to be replaced is still operational and proof that their boiler is less than 25 years old - as indicated on the inspection report or invoice.

Customers will learn of the Heating Efficiency Product and its benefits through newsletters, direct mail, the trade, and Public Service's Account Managers and Business Solutions Center representatives.

The following equipment information must be included on the application when applying for a boiler rebate: Plan (A or B), use (space heat and/or domestic water heat), manufacturer, model number, efficiency, size (MMBTUH) and quantity. Preapproval is not required before the customer

buys or installs equipment for prescriptive measures, but will be required for Custom projects in accordance with the Custom policy.
Information for other equipment can include: r-value, fluid temperature, pipe location (inside/outside) linear feet, pipe diameter, cost and serial number.

D. Marketing Objectives, Goals, & Strategy

The objective of the Heating Efficiency Product is to provide education and incentives that motivate customers to purchase high efficient heating equipment and run their existing heating systems at optimum efficiency. Boiler systems are typically installed in mid to large sized facilities, while furnaces tend to be in smaller buildings. The Product will work to identify and target these different facilities for efficiency improvement.

The Heating Efficiency Product follows the marketing strategy of other prescriptive Products and creates a base level of knowledge in the marketplace through Xcel Energy's Energy Solutions newsletter, direct mail campaigns to customers and trade allies as well as participation in trade shows and other events. These tactics make customers aware of the key benefits of energy efficiency and its applicability to heating systems. The Product provides fact sheets and rebate applications for the customers and trade to evaluate rebates and incorporate them into purchase decisions. Case studies and guidebooks are being developed to support the energy and non-energy benefits of new, high efficiency equipment and auxiliary equipment. In addition, Public Service's account managers and energy efficiency specialists from the Business Solutions Center will educate customers on energy efficiency, how to evaluate rebate potential, and the rebate application processes. The trade can find similar assistance through the Trade Relations Manager. The Heating Efficiency Product will also benefit from opportunities identified for participants in the Energy Analysis Product. Marketing communications will revolve around the benefits of energy efficiency through paybacks, lifecycle costs, and environmental benefits.

E. Product-Specific Policies

There are no policies specific to this product.

F. Stakeholder Involvement

Public Service routinely consults with several of the major equipment suppliers and contractors for guidance when refining the Heating Efficiency Product for Colorado. These stakeholders provided insight into the types of products to rebate, the incremental and total equipment costs to be expected, and how the application process can be improved. We also work closely with State and local governments to promote energy efficiency within their areas.

G. Rebate Levels

Rebate levels have been designed to encourage customers to install high efficiency equipment. The early replacement bonus was added to condensing hot water boilers to persuade customers to make a change to a higher efficiency system, even if their current system is operating satisfactorily. Auxiliary equipment rebates are also available to encourage customers to further improve the

standard choices that could be made. Pipe insulation and boiler tune-ups are lower cost options for customers who wish to enhance the overall performance and efficiency of their system.

There are three levels of hot water boiler equipment rebates. The Plan A-1 boiler measure rebates systems greater than 85% efficiency and is the lowest efficiency hot water boiler rebate offered. Plan A-2 covers boilers greater than 92% efficiency. This is for Public Service customers who have installed a new boiler where either no previous boiler existed, the existing boiler is no longer functional, or the existing boiler is more than 25 years old. To be eligible for the Plan B – Early Replacement (E.R.) Bonus a customer must meet all Plan A-2 requirements plus two additional conditions. The boiler to be replaced must be less than 25 years old and still functional. In order to persuade a customer to remove functional, yet lower efficiency equipment, incentives must be high. Details can be found in the table below.

Hot Water Boilers			
Minimum Requirements	**Plan A-1** - 85% (min efficiency)	**Plan A-2** - 92% (min efficiency) - Modulating Burner - Outdoor Air Reset	**Plan B – Early Replacement Bonus** - New boiler must meet all Plan A-2 requirements - Boiler being replaced must be functional and less than 25 years old
Rebate	$750/MMBTUH	$3,500/MMBTUH	$7,000/MMBTUH

Notes: (1) Equipment must use natural gas fuel as the primary fuel but can have dual fuel capability for backup. (2) Efficiency is based on either thermal efficiency (natural gas fuel) or efficiency determined from a combustion analyzer test (boiler systems with optional controls). (3) MBH or MMBTUH is based on boiler input capacity.

Rebates for Furnaces are consistent with those offered through the Residential segment. The minimum efficiency requirements for participating furnaces align with the ENERGY STAR guidelines and rated in Annual Fuel Utilization Efficiency (AFUE). Customers may receive rebates of $80 per unit for systems with minimum 92% AFUE, or $120 per unit for systems with minimum 94% AFUE.

Commercial water heater equipment rebate levels are set at $350 per unit. Rebates apply to tankless, or units with storage. They must be at least 92% efficient to qualify. Cost information was gathered from various vendors in Colorado to confirm we would not exceed 60% of incremental equipment cost.

Pipe insulation rebate levels are based on the size of the pipe being insulated and the R-value of the insulation. Larger diameter pipes with thicker insulation will be eligible for the highest rebates. Rebates are issued per linear foot of insulation installed. Cost information was gathered from

various vendors in Colorado to confirm we would not exceed 60% of incremental equipment cost. Rebates are detailed in the table below.

Pipe Insulation		
Pipe Diameter	R-Value	Rebate per linear foot per inch of pipe diameter
0.5" – 2"	3.5	$3.00
0.5" – 6"	5.25	$4.00
2.5" – 6"	7.0	$5.00

Retrofit Controls, Heat Recovery and System Improvements

a. Boiler Tune-Ups: $250/mmbtuh

b. Boiler Efficiency Retrofits:
- Modular Burner Control, 5:1 Turndown Ratio or Greater: $750/mmbtuh; $2,000 max
- Outdoor Air Reset Controls: $250/mmbtuh
- Stack Dampers: $250/mmbtuh
- Steam Trap Replacement/Parts: 25 % up to $250/trap; max $10,000

Performance Indictors

The internal rebate processing application system at Public Service tracks data, such as general customer information, information specific to the equipment installed, and rebate amount paid. The internal rebate operations staff pulls monthly reports of a sample percentage of Product application forms and checks the information that was provided on the forms against what was entered into the system. Errors are reported to rebate operations management and to the product manager who is responsible for the Product.

➢ Lighting Efficiency Product

A. Description

The Lighting Efficiency Product offers rebates to business customers of Public Service Company of Colorado ("Public Service" or the "Company") who purchase and install qualifying energy efficient lighting products in existing or new construction buildings. Rebates are offered to encourage customers to purchase energy efficient lighting by lowering the upfront premium costs associated with this equipment. This product is available to business electric customers in the Company's service area.

The product incorporates several features designed to influence decision-makers to choose the higher efficiency options. These features include application forms with full instructions to make it easy for the customer and/or vendor to apply for the rebates, and additional resources such as feature sheets, brochures, and web pages to help explain the advantages of efficient lighting sources.

For businesses, the cost of lighting is one of the main components of energy bills. Installing energy efficient lighting, or reducing the number of lights needed, can significantly lower energy bills. The main goals of energy efficient lighting is to ensure good visibility for the task required, increase productivity and safety for employees, provide an attractive and comfortable work environment, and reduce operating and maintenance costs.

There are four ways customers can lower their lighting costs and earn rebates:

<u>Lighting Retrofit Rebates (prescriptive)</u>
Rebates are available for existing facilities of any size to help offset the cost of installing new equipment that is more energy efficient than the current lighting systems. Rebates are based on a one-for-one replacement of existing fixtures. Situations where a lighting retrofit can be beneficial are when employees are complaining of comfort issues, such as eyestrain from under- or over-lit conditions, or where high energy bills are a concern.

A common lighting retrofit application is replacing an existing fluorescent T12 system in a typical office space with more efficient T8 fluorescent lamps and a high efficiency electronic ballast. In some instances, the number of lamps installed per fixture can be reduced, while still providing ample light levels. This yields significant energy savings. In warehouse buildings, or spaces with high ceilings, replacing a High Intensity Discharge lighting (HID) system with a more efficient fluorescent option is a typical retrofit project. Replacing HID lamps such as mercury vapor, high-pressure sodium, and metal halide fixtures with high bay fluorescent options can reduce energy costs and improve light levels. In addition, by installing fluorescent T5 systems, T8 with electronic high efficiency ballast, compact fluorescent fixtures, and several other technologies, customers can receive a rebate when replacing less efficient systems.

<u>New Construction Rebates (prescriptive)</u>

Rebates are available for new facilities of any size as well as existing facilities that are going through a major renovation. There are several lighting options available to building owners, architects, professional engineers and lighting designers. Influencing better, energy efficient lighting options during a building's design, planning and installation is the goal of the new construction path. Fluorescent high bay fixtures, compact fluorescent fixtures, and low-wattage lamps are a few of the technologies rebated for new construction facilities.

Custom Efficiency

Energy saving lighting projects that are not on the prescriptive Lighting Retrofit Rebates menu can be reviewed through the Custom Efficiency path using the Custom Efficiency Application and the accompanying Lighting Evaluation Worksheet. Project analysis and preapproval is required prior to equipment purchase and installation. Examples of lighting projects that would be reviewed through the Custom Efficiency path include installation of certain LED lighting sources, other emerging or uncommon technologies such as induction lighting, retrofit projects where it is not a one-for-one replacement of existing fixtures, and "re-lamping" fixtures with a wattage reduction.

Lighting Redesign

Lighting Redesign offers rebates for pre-project studies comparing energy saving technologies, and implementation of energy saving opportunities. Studies must be performed by a lighting professional of the customer's choice with one of the following credentials: Lighting Certified professional (LC), Certified Lighting Efficiency Professional (CLEP), or membership with International Association of Lighting Designers (IALD). Customers who wish to locate a lighting professional may visit our Website to review a list of qualified lighting professionals who have agreed to participate in the Lighting Redesign path.

The Colorado Lighting Efficiency product was patterned after the Lighting Efficiency product in the Minnesota service area, which has operated since the mid 1980's. The Minnesota product received Exemplary Honors for best practices from the American Council for an Energy-Efficient Economy (ACEE) in 2008 for using proven approaches and providing consistent, reliable and cost-effective savings. In 2003, the Minnesota product received Honorable Mention for best practices from ACEE. Best practices were identified on four major product components: 1) product theory and design, 2) product management, including project management, reporting and tracking, quality control and verification, 3) product implementation such as the participation process, marketing and outreach strategies, and 4) product evaluation.

B. Goals, Participants & Budgets

Goals and Participants

In support of the business program's growing goals for energy savings and demand reduction, Lighting Efficiency's primary objective is to cost effectively remove less efficient lighting from the commercial and industrial markets with rebates and other incentives for installing energy efficient lighting systems.

The Lighting Efficiency Product goals are rolled-up into the total goal for the business portfolio. Initially, the management team reviews the entire portfolio's goal and allocates individual product goals with input from the product portfolio manager. Individual product goals, including the Lighting Efficiency goals, are based on the achievements of past years and the extensive experience

from the Minnesota Lighting Efficiency Product. Lighting Efficiency is historically one of the largest contributors to the Company's DSM portfolio savings and therefore is allocated a large percentage of the annual goal.

Participation goals are derived from prior years' goals, participation, achievements and product trends, trade participation, average project size and a comparison of participation in the Minnesota product. Colorado market and economic trends and regulatory outlook – including upcoming changes to lighting efficiency standards – are other important factors in setting product participation goals.

Increasing federal efficiency standards will impact Lighting Efficiency during the 2012-13 filing period. Beginning January 1, 2012 – the effective date of the Energy Independence and Security Act (EISA) of 2007, which regulates standard incandescent bulbs – screw-in CFL rebates will no longer be available because Public Service believes CFLs have become standard practice for business customers. Beginning in 2013 – as guided by Department of Energy (DOE) Rulemaking – changing the present T12 technology baseline to a stricter T8 baseline will significantly reduce fluorescent fixture reportable savings – a substantial proportion of total savings since the Lighting Efficiency product was launched.

Budgets

Once goals are established, the budget process is generally the same for Lighting Efficiency as with the other DSM products. Historical cost and participation information is tracked and analyzed to project budgets two years in advance. With increasing DSM goals in 2012-13 and beyond, additional budget dollars assume product expansion, incorporating rebates for emerging technologies such as LEDs, and offering additional customer and trade incentives to remove less efficient technologies from the Colorado commercial and industrial markets. Experience and trending from the Minnesota Lighting Efficiency products is used as a checkpoint.

For the Lighting Efficiency Product, rebates, labor and promotional expenses drive the majority of the budget.

- **Rebates**: The majority of the Lighting Efficiency budget is dedicated to rebates, so the energy savings goal is the main contributor to the overall Lighting Efficiency budget. The rebate budget is planned using the average lighting project rebate cost from detailed technical assumptions and multiplying by anticipated participation.
- **Labor Charges**: determined by estimating the number of full-time employees needed to manage the product and execute the marketing strategy and rebate process.
- **Marketing and Advertising**: promotional vehicles used to reach business customers including print, Web, direct mail, email, radio and television marketing efforts as well as trade outreach and promotions.

C. Application Process

Customers may hear of the Lighting Efficiency Product through several channels, including the Company's website, advertising, direct mail, email promotions or through the lighting trade. Company account managers work directly with our largest customers to help them identify energy

saving opportunities in lighting and our Business Solutions Center is available for all business customers, particularly the small- and mid-sized business customers who need information on our rebate products.

Lighting Efficiency Retrofit and New Construction Applications

The application process for the prescriptive retrofit and new construction products is similar to our other prescriptive products. Customers may apply for rebates by completing the application and providing a detailed invoice for the newly installed equipment. The customers may submit for a rebate after the equipment has been purchased and installed. The replacement of fixtures for retrofit situations must be a one-for-one replacement that will result in energy savings. If the retrofit is not a one-for-one replacement but still results in energy savings, customers may apply for preapproval through the Custom Efficiency Product. The equipment must be new and meet all the qualifications detailed on the application. After the customer has installed the equipment, the application and invoice must be submitted to the Company within twelve months of the invoice date. Once the paperwork is completed and submitted, rebate checks will be mailed to the customer as indicated on the application within six to eight weeks.

Custom Efficiency Lighting and Lighting Redesign

Applications for energy saving lighting projects that do not fit into the prescriptive paths may be reviewed using the Custom Efficiency Application and the accompanying Lighting Evaluation Worksheet. Project analysis and preapproval of Custom Efficiency lighting projects is required prior to equipment purchase and installation.

In the Lighting Redesign path, rebates for pre-project studies require preapproval. After the study is completed by a licensed lighting professional, the Lighting Redesign Study Rebate application may be submitted to the Company with a copy of the study proposal for rebating. If the recommended energy saving measures are carried out, the customer (with assistance from the lighting professional and the Company) may apply for a Lighting Redesign implementation rebate, which is based on a dollar amount per kW saved.

D. Marketing Objectives, Goals, & Strategy

The key marketing objective is to raise awareness, interest and participation in the Lighting Efficiency product, contributing to goals for energy savings and demand reduction.

Marketing Strategy

Lighting Efficiency is primarily promoted through Company Account Managers, Energy Efficiency Specialists via inbound and outbound telemarketing, through Colorado's lighting and electrical trade via the Company's Channel Managers, and by traditional marketing vehicles such as advertising, mailings, Web content and tools, email and other sales promotions.

Account Managers and Energy Efficiency Specialists sell the Lighting Efficiency product--especially to mid- and large-sized commercial and industrial customers where the majority of savings are realized--in their planning and day-to-day interactions with business customers.

Significant market segments for potential Lighting Efficiency savings include office buildings, manufacturing sites, retail establishments, schools and 24-hour facilities. Marketing campaigns

targeted to those segments are executed by one-on-one Account Manager meetings and planning, Energy Efficiency Specialist scripted calls, or mass communications that drive inquiries to the Company's inbound phone center.

Marketing to Trade

The Company's outreach and relationship building with lighting and electrical trade, professional engineers, architects and lighting designers is another key strategy to reach important business segments and indirectly influence the purchase and installation of energy-efficient lighting systems. The Company establishes and maintains contact with this audience by:

- In-person training and presentations by the Channel Managers at industry events and trade shows, such as the Energy Efficiency Expo held in first quarter, for both customers and trade allies;
- The Lighting Advisory board, described in the Stakeholder Involvement Section below;
- Energy Exchange, a quarterly email that is sent to the trade discussing energy efficiency lighting applications, case studies, product changes, and other pertinent topics; and
- Trade website, including applications, specific brochures and informational pieces directed toward the trade, and updates on product offerings.

Marketing to Small Business Customers

We reach out to this harder-to-reach market primarily through direct mail, email and the Business Solutions Center. The Lighting Efficiency product will continue to reach out to small business customers with direct marketing approaches as well as the Company's Small Business Lighting consultant.

In addition, several printed pieces are available on the Company's websites for viewing or download, and the Lighting Efficiency team will continue to refine and improve them. These pieces are targeted to both large and small business customers as well as the trade. The websites offer information on lighting technologies, case studies of successful lighting upgrades, and external sources highlighting reasons to pursue lighting upgrades or implement efficient lighting sources.

- Prescriptive Rebate Applications – Applications detail product requirements, rebate levels and additional information to help customers complete the form and submit it for rebate with accompanying invoices and equipment specifications.
- Lighting Efficiency product summary – This brochure is available on the Company's website and is used by Account Managers, Energy Efficiency Specialists and trade to describe the product, discuss reasons to upgrade to more efficient lighting, and identify potential lighting projects.
- Resource Documents – The Lighting Efficiency web page links to several documents on energy efficient lighting technologies, written by outside organizations such as E-Source, that further identify lighting efficiency sources and opportunities.
- Managing Costs by Segment Documents – Documents identifying specific energy savings ideas for key segments, such as grocery stores, office buildings, schools and universities.

Marketing Messages Driven by Future Regulatory Requirements

In the coming years, Lighting Efficiency energy savings potential will be affected by necessary compliance with several new Federal and State legislative rules (example: Department of Energy Rulemaking on fluorescent lighting technology). An imperative marketing strategy is to keep Account Managers, Energy Efficiency Specialists, trade partners and customers aware of the

requirements and timing deadlines for these pending energy efficiency standards. These new rules will also influence Lighting Efficiency product development, such as expansion of LED lighting applications, and the phasing out of obsolete technology.

E. Product-Specific Policies

Lighting Efficiency has a number of product-specific policies:

- All rebated equipment must be new, meet all product rules and requirements, and the application must be submitted within 12 months of the invoice date.
- In cases where the customer is unable to obtain an equipment invoice, the Company will send an Account Manager to complete an onsite field verification to confirm that equipment was installed as stated on the application.
- Preapproval is required for Custom Efficiency lighting projects prior to the purchase and installation of lighting equipment. The customer has up to 24 months after the preapproval date to implement the lighting project. Custom projects that exceed their timeframe, or have significant equipment deviations from the original plan, require reanalysis and approval.
- The parking garage lighting retrofit rebate application is available for prescriptive projects to replace high intensity discharge technologies (high-pressure sodium and metal halide) with more efficient fluorescent options.
- Lighting redesign studies must be submitted no later than three months after the study is completed.

F. Stakeholder Involvement

Stakeholder involvement in the Lighting Efficiency product comes through a Lighting Advisory Board and the quarterly DSM Roundtable meetings. The Lighting Advisory Board was formed as a collaborative effort between several key lighting professionals and the Company's management team. The objectives of the board are to identify gaps in our product offerings, suggest areas of improvement, and to offer a forum for open discussion of lighting topics. Several recommendations from the board have been addressed through the Company's product development process and incorporated into the product. The board will continue to meet on a regular basis or as long as needed.

G. Rebate Levels

Lighting Efficiency offers rebates through the retrofit and new construction prescriptive components, Custom Efficiency and Lighting Redesign paths.

(Rebates are capped at 60% of the installed cost of equipment plus labor)

Equipment Type	**Rebate Amount**
Fluorescent T8 lamps with high efficiency, low ballast factor ballasts	$13-$22 per fixture
Low-wattage 4-Foot fluorescent T8 lamp (28W or less)	$1 per lamp
Delamping: T12 or T8 systems to more-efficient T8 systems, including high-efficiency ballasts (T8>T8 delamping requires low ballast factor)	$12-26 per fixture
Fluorescent T5 lamps with electronic ballasts	$13 per fixture
High-bay fluorescent fixtures with high-efficiency electronic ballasts	$85-210 per fixture

Hardwired compact fluorescent fixtures	$25-35 per fixture
Energy Star qualified LED lamps and fixtures	$20-$35 per lamp, $100-125 per fixture
LED canopy and soffit fixtures; LED refrigerated and freezer case lighting	$275 per fixture; $100 per door
Pulse start metal halide fixtures	$25-140 per fixture
Ceramic metal halide lamps and fixtures	$25-$75 per unit
Wall, ceiling or fixture mount occupancy sensors, photocells	$30-$50 per unit
LED or LEC exit signs	$15 per unit
Parking garage fluorescent fixtures	$50 per fixture; $1 per low-watt T8 lamp
Custom Efficiency rebates using the Lighting Evaluation Worksheet	Based on energy savings. See Custom Efficiency section for details.
Lighting Redesign studies and implementation rebates	Up to 75% of study cost, not to exceed $25,000; implementation rebates up to $400/kW saved.

(Rebates are capped at 60% of the installed cost of equipment plus labor)

Equipment Type	**Rebate Amount**
Low-wattage 4-Foot fluorescent T8 lamp (28W or less)	$1 per lamp
High-bay fluorescent T8, T5HO and T8VHO systems	$12-$50 per fixture
Screw-based compact fluorescent fixtures	$1-$3 per lamp
Hardwired compact fluorescent fixtures (CFL)	$10-20 per fixture
Pulse start metal halide fixtures	$8-$18 per fixture
Ceramic metal halide lamps and fixtures	$12-$25 per unit
Custom Efficiency rebates using the Lighting Evaluation Worksheet	Based on energy savings. See Custom Efficiency section for details.

➢ Motor and Drive Efficiency Product

A. Description

Public Service's Motor and Drive Efficiency Product strives to assist customers with awareness and incentives to reduce the barriers associated with various types of motors purchases. Over time, the product line has adjusted to market and regulatory conditions, incorporated inputs from evaluations, and added new products.

We continue to offer prescriptive incentives on NEMA Premium motors, Variable Frequency Drives. We have now added Electronic Commutated Motors (ECMs) serving the refrigeration market, and Constant Speed Motor Controllers (CSMC), which provide savings on devices like escalators, and under-loaded conveyers. We also offer custom rebates for motor-related equipment that falls outside the prescriptive criteria. The products allow customers to operate efficiently, and provide multiple benefits like longer equipment life span, and reduced maintenance costs.

B. Goals, Participants & Budgets

The individual product goals are based on historical performance data, inputs using our recent 2010 CO Motor & Drive Program evaluation and empirical research from primary and secondary research sources, including:

- The Motor Decision Matters workgroup,
- The Best Practices - Non-Residential Large Comprehensive Products
- The Electric Apparatus Service Association (EASA) State of the Industry Report, and Other utility programs.

Goals were established at the portfolio level using participation trends, sales and marketing pipeline data, a review of historical product performance, employee experience and other variables. The goals represent a snap shot of anticipated customer participation.

C. Application Process

Customer awareness occurs through various channels: our website, direct and email promotions, and Public Service's internal sales force, end-use equipment trade allies, and energy services companies. The rebate applications are available to download via the Internet, from our sales force, or from our participating vendors. Whether a prescriptive or custom option is pursued, completed applications and the supporting documentation (invoice and equipment specifications) are reviewed.

Custom equipment measures must receive pre-approval for their potential claim, and undergo engineer review and analysis to confirm viability and cost-effectiveness. Customers with successful projects receive their rebate within eight weeks.

D. Marketing Objectives, Goals, & Strategy

A comprehensive impact and process evaluation has revealed many positive aspects of the product, and has also influenced our marketing objectives, goals, and strategies. Per the evaluation recommendations, we will continue to: expand our outreach and training to vendors; streamline our

applications; look for opportunities to streamline our Custom process; increase our penetration into the small and mid-sized market segments; and increase our rebate funding level.

The evaluation also recommended a downward adjustment of the net-to-gross factor, beginning in 2011, which results in less net impact per customer. Therefore, to meet our goals, the overall budget has substantially increased to accommodate expanded small to mid-sized customer outreach and awareness, provide for more vendor training, and provide for higher rebates for established products. We have also allocated funds to develop, launch, market and support two new product lines.

Because of variability in the market, the evaluator also recommended further research to refine the technical assumptions of coincidence and useful life. Public Service has carefully considered proposals for the research, and concluded that it would not be cost-effective to proceed with the research.

Motor and Drive Efficiency plans to meet its goals using a variety of resources and communications paths, including personal sales visits to the largest business customers, newsletters, customer events, direct mail, email communications, and awareness advertising to reach our business segment customers. The Company also participates in customer fairs, trade shows, and customer meetings, and works with trade organizations and service providers to raise customer awareness throughout the year when warranted.

To overcome market barriers, marketing materials specifically addressing the importance of planning for a motor failure, the importance of inventorying existing equipment, and the need to develop for a decision criteria regarding whether to replace or rewind a particular motor were created based on insights from primary and secondary research regarding customer needs.

We also have collaborative efforts with the following organizations:

- Motor Decision Matters - Motor Decisions Matter^{SM} is a national public-awareness campaign. Its sponsors include a consortium of motor manufacturers, motor service centers, trade associations, electric utilities, government agencies, and Public Service.
- National Electrical Manufacturers Association (NEMA) – The member companies established premium energy efficiency motors thresholds to provide energy efficient products that meet the needs and applications of users and original equipment manufacturers based on a consensus definition of "premium efficiency" and use of the NEMA Premium® logo for premium products.

E. Product-Specific Policies

Public Service customers must submit their rebate application claim within 12 months from the purchase date on the invoice. Custom projects that exceed their timeframe or have significant equipment deviations from the original pre-approval, require reanalysis and approval.

F. Stakeholder Involvement

Public Service's Motor and Drive Efficiency Product has been successful because of external support from trade allies and others who understand our product and assist us with customer

support, education, and awareness. Customers benefit from hearing a consistent message from a variety of sources. Input comes for our customers, sales representatives, roundtable workgroups, primary and secondary research, and through discussions with other utilities. Comments are considered and implemented if and when appropriate.

G. Rebate Levels

Rebates are paid directly to customers, unless the customer reassigns the rebate to their vendor as an alternate rebate recipient. The program offers the following rebates:

Description	**Horsepower (hp)**	**Rebate Amount**
New/Restored Capacity - Plan A Enhanced Early Replacement/Upgrades – Plan B (Standard and Enhanced)	1 hp – 500 hp	Tiered rebate offer depending on the horsepower
VFDs controlling motors used on fans and pumps	1 hp – 200 hp	Tiered rebate offer depending on the controlled horsepower
Electronic Commutated Motors for Refrigeration	1/30 hp to 1/3 hp (Approximates)	Tiered rebate depending whether the refrigeration application is a display case or a walk-in.
Constant Speed Motor Controllers	5 hp to 500 hp	Tiered rebate offer depending on the controlled horsepower
Custom for larger and non-prescriptive motors, drives, or related measures	Outside the prescriptive parameters	Individually determined under the Custom Efficiency product

➢ New Construction Product

A. Description

The New Construction Product influences building owners, architects, and engineers to include energy efficient systems and equipment in their design for new construction and/or major renovation projects. Since the Company services building owners of different areas and size, the New Construction Product offers two individual components: Energy Design Assistance (EDA) and Energy Efficient Buildings (EEB). Both components are available to non-residential customers in Public Service's electric and natural gas service territory.

Energy Design Assistance

The EDA offering provides a source of energy expertise to encourage energy efficient building design and construction practices. As part of Public Service's Business New Construction portfolio, EDA offers design assistance in support of integrated design process by providing free computer modeling of the planned design, funding to offset the cost of design time associated with the increased energy analysis, financial incentives to improve the cost effectiveness of a package of energy-efficient measures, and field verification to ensure that the strategies are installed per the design intent. EDA is a free service to Public Service business customers.

According to the *Best Practices Benchmarking for Energy Efficiency Programs*[10]**,** it is crucial for new construction products to begin in the early part of design and utilize the integrated design process. The report states that, "Integrated design adds value because cost-effective energy savings opportunities decline as the project progresses through the various design stages." The EDA Product uses computer energy models and a well-established, collaborative method for exchanging information with the design professionals, contractors, developers, and building owners in this integrated design process. Important information is provided at critical points in the design process about the value and application of strategies for reducing peak demand and energy use. By analyzing integrated systems in the beginning of the design process, customers can make a building significantly more efficient, more comfortable for the occupants, and less costly to operate in the future.

In addition to technical assistance, Public Service provides financial incentives to building owners to improve the cost-effectiveness of energy efficient materials and equipment. Incentives are paid only after a verification process is completed, which typically occurs within two months of building occupancy. Verification ensures the measures are installed as proposed and provides an added degree of confidence with associated savings.

EDA offers two tracks for customer involvement: Basic and Enhanced. The Basic track is for all Public Service customers interested in the opportunity to participate in a collaborative design process and identify energy savings opportunities using new technologies and energy methodology. The following requirements apply to the Basic track:

[10]National Energy Efficiency Best Practices Study, Quantum Consulting Inc., Dec. 2004, pg. NR8-2

- Square footage: Greater than 50,000 square feet (new construction, major renovation or addition) [11]
- Design phase: Schematic design or early design development
- Energy Savings: 15% peak demand savings required to receive incentives

The Enhanced track is for Public Service customers interested in obtaining sustainable building certifications, such as the United States Green Building Council's Leadership in Energy and Environmental Design (LEED®). The Enhanced track allows for further analysis in daylighting, lighting and mechanical system comparison, and building orientation, and mechanical system changes. A minimum of two additional analyses must be completed. The following requirements apply to the Enhanced track:

- Square footage: Greater then 50,000 square feet (new construction, major renovation or addition.
- Design phase: Pre-design or early schematic design
- Energy Savings: 30% energy demand savings required to receive incentives

Public Service administers the EDA product in a number of ways. First, qualified energy design consultants are used to help identify product candidates, facilitate meetings with the design teams, including the owner, and complete energy modeling activities. Consultants are qualified through a request for proposal process which is completed every three to four years to select these resources. Due to the high costs associated with modeling and this product, the number of consultants is limited for the product to remain cost-effective. Second, in an effort to encourage more early analysis, increase energy savings, and be more inclusive of all energy companies, Public Service reimburses for early analyses conducted under the EDA Enhanced track to a customer's chosen consulting company, beginning January 1, 2011. This "open enhanced" process came about through discussions with various energy companies who showed support for this process. Many companies are actively engaging this process.

Since 2006, the product has achieved approximately 37 GWh in savings with 56 completed projects. Acceptance into the Colorado market exceeded Public Service's expectations up until the recession of 2008. The slow down in new construction resulted in less than originally anticipated projects and a lower than expected number of new building starts in the past few years. All segment types can participate in the EDA Product; however, many of our projects fall in the sectors of office, schools, retail and healthcare due to the square footage requirements.

Energy Efficient Buildings

The EEB offering is intended to provide a simplified approach to optimizing energy efficiency options in new construction or major renovations. This component addresses the portion of the new construction market not suited for the full-blown energy modeling of the EDA offering. Projects must be a minimum of 5,000 square feet. Projects are also generally less than 50,000 square feet and/or past the schematic design stage of new construction.

[11] Smaller buildings, which anticipate high energy and demand savings, or are on a fast-track will be considered on a case-by-case basis for the Basic track only. These accepted projects may receive a reduced level of modeling as determined by Xcel Energy.

Focusing on the needs of small building owners, the EEB offering provides a comprehensive list (in an excel calculator format) of typical energy efficiency measures that can be incorporated into the new building design, as well as the rebate amount available for each measure. Incentives are provided for heating and cooling, lighting, building envelope, electric motors, and custom opportunities. Customers will receive a rebate tailored to their building after the project has been constructed and an onsite verification completed.

Public Service administers the EEB product using both internal and external resources to review the calculations, rebates and verify installation. The EEB offering is open to any consultant to assist the customer with the EEB process.

National Industry Review

Public Service's Colorado Energy Design Assistance offering was developed based on a similar award-winning product in our Minnesota territory. The Minnesota Energy Design Assistance Product has been recognized by the American Council for an Energy Efficient Economy (ACEE) for its approach and use of best practices. Specifically, they said, "Energy Design Assistance is an exemplary product as recognized by ACEE in its 2003 and 2007 national reviews. It has been and continues to be a model product." The European Council for an Energy Efficient Economy also recognized the Minnesota product as **"**The Product Most Likely to Meet the Intent of the Kyoto Protocols in the Shortest Time." The Colorado product benefits from the lessons learned in the over 15-year history of the Minnesota product.

B. Goals, Participants & Budgets

Goals and Participants

The EDA energy goals were estimated based on the average energy savings of participating buildings when compared to the usage of a baseline building. The baseline building is defined as a building compliant with the ASHRAE 90.1-2004, or the local code, whichever is more stringent. Net-to-gross ratios are determined and applied relative to the stringency of the code base being used for new projects. The specific ratios are included in the planning assumptions section. Since the sales cycle for EDA is typically two to four years—from project initiation in the beginning of project design to the completion and occupancy of a physical building—the projects expected to finish in 2012-13 are already known and tracked.

The design of the EEB offering was based on a similar product in Minnesota (called the Plan Review component of the Energy Design Assistance Product). EEB was introduced in late 2009 to the Colorado marketplace with six project completions in 2010. Goals were developed using one year of actual data as well as historical experience with the Minnesota product, recognizing that new buildings generally take one to two years from project initiation to completion and occupancy. We expect an increase in projects in 2012-13 as EEB gains traction in the marketplace.

Budgets

Once goals were established, the budget process is generally the same for the New Construction Product as with the other DSM products. Historical cost and participation information is tracked and analyzed to project budgets two years in advance.

For the New Construction Product, customer project modeling drives the budget, construction incentives, measurement and verification, and promotional dollars. The following was used to identify these specific drivers:

- Consulting Charges: Much of the product delivery budget is associated with the cost of modeling specific customer projects. Modeling costs are estimated to be approximately $260 per kW saved for the basic track and $300 to $400 per kW saved for the enhanced track. Modeling costs are then split between the year modeling begins and the year in which the project will be completed due to final as-built modeling used in final rebate calculations. There are minimal consulting dollars allocated for the EEB offering.
- Incentives: Incentives are determined by establishing a dollar value per participant at the appropriate rebate level.
- Measurement and Verification: Measurement and verification is completed in two steps for the offering and described in the M&V section of this filing. Cost estimates are based on construction document and site review and are analyzed on a per project basis. Estimates of verification costs are between $8,000 and $12,000 per project.
- Promotions, Advertising and Customer Education: Promoting the product through specific advertising campaigns, trade shows and lunch and learn opportunities is an important part of the Business New Construction offering and aids in shifting the new construction market towards higher efficiency. As such, historical data in both Minnesota and Colorado were used to determine the appropriate levels needed for this plan.

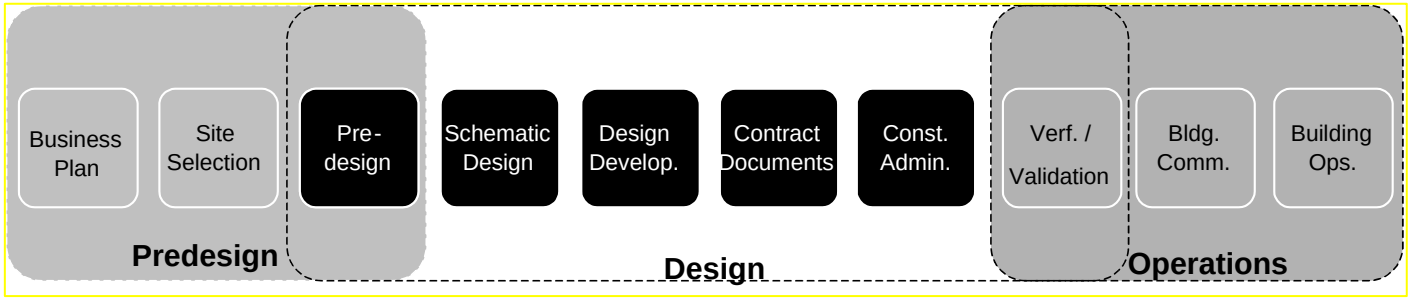
C. Application Process

Energy Design Assistance

The application process for EDA is more involved than for prescriptive products and follows the design schedule of a new construction project as outlined in the following diagram. The average time frame for project completion can range from two to four years depending on project schedules. Thus, projects beginning modeling in 2012 will likely be completed in 2014 or beyond.

Building Design Process

The application steps for the product are detailed below.



1. **Application Submittal:** Each project is evaluated by Public Service and our third-party consultants to ensure the project meets the eligibility requirements:

Customers who are interested in participating in the product but whose projects are later in the design schedule are considered depending on their flexibility and timeline. Once approved to participate in the EDA offering, the customer receives an email approving the project and a note explaining next steps.

2. **Introductory Meeting:** An introductory meeting with the customer, design team, the EDA consultant, and other key parties, takes place within two weeks of approval, depending on the design schedule. This meeting sets the tone for the collaborative approach, by explaining how the process works, who is involved and what results should be expected. Initial project details, such as baseline systems, are collected during this meeting.

3. **Preliminary Analysis:** Using project details and costs from the design team, the EDA consultant begins the modeling process. Analysis is completed using a whole-building energy simulation computer program. eQUEST is often used as the interface tool in conjunction with the DOE-2.2 energy simulation engine. Modeling protocols are established using ASHRAE 90-1 – 2004 or the local code, whichever is more stringent. Further analysis under the Enhanced track is also completed using the relevant modeling program and code base.

   Within this analysis, different conservation opportunities are explored that fit into the project criteria—payback analysis, energy expectations, and original design strategy. A meeting is then held to review these strategies to find the ones that meet the original project criteria and which ones should be considered moving forward.

4. **Bundle Analysis:** Conservation opportunities are then packaged together in a bundle to show expected building energy savings, paybacks and incentives. A whole building approach is used to identify the net effect of multiple strategies on a project. This approach provides opportunity for more energy savings impact, by trading less effective ideas that may be in the budget for more effective, new concepts. The bundling of strategies also provides protection against the typical value-engineering phase of the design/construction process, which typically cuts individual elements of projects based on their first cost and impact on the tangible elements of the building, with little regard for on-going energy use. These are then presented to the design team who chooses the best bundle for their project.

5. **Final Energy Analysis:** Once the design team completes construction documents, the external consultant completes a final energy model. This final energy model is used to determine the expected Public Service incentives and to verify compliance with the energy savings commitment given in writing by the bundle selection form. A meeting is held to review this final energy analysis before construction.

6. **Verification:** The final step in the EDA offering occurs when Public Service completes an onsite verification of energy opportunities addressed within the energy model. Equipment and systems are logged to evaluate performance variables as appropriate to verify consistency with modeling assumptions. The actual results are compared to the estimated savings to determine the final customer rebate.

Energy Efficient Buildings

Customers may hear of the EEB offering through several channels including account managers, the Business Solutions Center, architects and engineers, general contractors, or equipment trade. The application process is similar to other Public Service prescriptive products, however, preapproval is required via an agreement between Public Service and the customer to complete energy efficient measures with the building, to allow verification of project design and to accept a final verification of actual installation.

The first step in the process is for the customer to submit a preapproval application and agreement to Public Service. Once received, Public Service will review the project to confirm the project timing, square footage, and customer engagement (interest in energy efficiency options). The application is built into the calculator tool that allows customers to enter data and estimate their overall rebate for the product.

Once preapproved, the customer will receive an email from Public Service explaining the terms of the EEB offering and processes. An introduction meeting will be offered to the customer to offer assistance with the calculator and energy efficiency advice. The owner will then submit the project data throughout the construction and completion of the project for review by Public Service. The customer will receive the final construction rebate once the project and onsite verification have been completed.

D. Marketing Objectives, Goals & Strategy

The New Construction Product is primarily marketed through our sales team and external energy consultants directly to architects, engineers, general contractors, and Public Service customers, as detailed below. The Company fosters a collaborative approach, meeting with design teams to show how the product works and how it is beneficial to their customers. Marketing strategies used within the product scope include trade shows, electronic newsletters, face-to-face meetings, advertising, and participation with various trade organizations including American Institute of Architects, Association of General Contractors, and ASHRAE. A secondary market is building owners and developers. The EEB offering, on the other hand, is primarily marketed to developers and customers, also detailed below.

Public Service continues to identify opportunities to improve the product through multiple methods. An evaluation of the product was completed in 2009 and the recommendations were reviewed for adoption into the 2011 product. To continue to promote higher efficiency levels in buildings and allow other energy companies to participate in EDA, Public Service began reimbursing for early analyses conducted under the EDA Enhanced track to a customer's chosen consulting company. In addition, we increased the minimum savings requirements from 5% to15% in 2011 for the Basic track and from 15% to 30% in the Enhanced track; the electric incentive was increased from $300 to $400 per kW. The EDA baseline continues to become more stringent as Colorado counties continue to adopt more stringent code levels. These changes only impact new projects starting under the New Construction product.. Promotional opportunities are also being considered to incentivize customers to reach higher energy savings goals.

Primary Market-General Contractors, Architects, Mechanical and Electrical Engineers:

- Implements energy efficiency

- Influences customer/developer decisions
- Trusted by owner
- Often suggests product to owners and developers
- Key to actual inclusion of strategies and cooperation

Secondary Market-Owners and Developers:

- Makes initial decision on budget
- Hires and contracts with architect, engineers, and general contractor
- Initiates conversations on energy efficiency
- Makes final decision on equipment choices
- Key to moving general contractors to energy efficiency strategies within a limited budget

There are several pieces of collateral used for the New Construction Product and Public Service continually tries to improve and update these pieces available to customers via events or website.

- Product feature sheet: explains the features and the benefits of the product
- Case Studies: provides examples of how various customers benefited from participating in the product
- Process flow chart: detail information on the product processes
- White Papers: explain different options for energy efficiency in lighting, heating, cooling, envelope, and other measures.

The EEB offering provides Public Service with the opportunity to conduct a larger marketing effort for New Construction. Several strategies are used, such as:

- Trade and Customer seminars: In person opportunities to educate customers and trade on the benefits of new construction review are an important part of the marketing strategy.
- Conferences and Exhibits: In-person expertise to help customers determine what product best fits their needs, as well as guidance on the respective processes.
- E-newsletters: Another avenue to educate our market on the product and benefits of reviewing new construction for energy efficient opportunities.

E. Product-Specific Policies

The following policies are in place for the New Construction Product:

- Natural Gas Impacts. In taking the whole building approach, there are times when an efficiency measure might cause a decrease in one fuel, but an increase in another fuel, such as when the change from an incandescent light to a compact fluorescent bulb reduces the lighting heat output, thereby increasing the heating need for the space. This results in a net decrease in BTU consumption and a decrease in electricity consumption, but a slight increase in gas consumption (assuming a space heated with natural gas). In these situations, Public Service will account for both the decreases (energy savings) and increases in fuel consumption and will rebate accordingly.
- Completion of several opportunities. The EEB offering will require installation of new equipment in both the electrical and mechanical sections of the building. Major renovations that only require adjustments to lighting will be referred to our current prescriptive product. The same will be required for any other stand-alone equipment or systems.

F. Stakeholder Involvement

Customers, trade allies, and other stakeholders are currently engaged at the specific project level. Feedback is garnered individually from participants and once a trend develops (positive or negative), Public Service makes a change to the product design. If it is a small change, it is then discussed internally and possibly with a few key trade allies and, if deemed acceptable, implemented. A larger change would possibly involve review by the product's external technical resources or other third-party consultant and then would be submitted through the DSM Roundtable review process. In addition, Public Service meets with representatives of the Energy Modeling industry for the possibility of product revisions requested by this group. An outcome of these meetings was to add an Open Enhanced track, where early analysis is open to a customer's chosen modeling company.

Xcel Energy continues to coordinate with other utilities and organizations to improve and effectively deliver the New Construction offerings. In addition, surveys are used to gather feedback from participants at the end of the project to continually improve the product.

G. Rebate Levels

The EDA offering covers energy modeling services valued at an average of $30,000 per project. Public Service also reimburses design team members to offset the incremental cost of their participation from $4,000 to $12,000 per project depending on the square footage of the building.

In addition to energy modeling, Public Service provides financial construction incentives to building owners to improve the cost-effectiveness of the chosen energy efficiency measures. Customer incentives are based on demand and energy savings set at a base rate of $400 per kW saved and $0.04 per kWh saved. In addition, a natural gas savings rebate of $4 per dekatherm saved is available.

For the open enhanced offering, Public Service reimburses up to $4,000 for each analysis (building orientation, daylighting, HVAC, early lighting, and green building certification submittal) to a customer's chosen energy consultant.

➢ Process Efficiency Product

A. Description

The Process Efficiency Product targets large industrial customers. Its holistic approach to energy conservation helps the customer create and implement a sustainable energy management plan. This product is traditionally delivered in three phases. Each of these phases is defined in a Memorandum of Understanding (MOU) that is customized to reflect the needs of the specific customer.

Phase 1: Identification - A high level analysis is performed to identify opportunities for energy savings in both a customer's business practices and the technical opportunities within their operations. This is completed at no cost to the customer.

Phase 2: Scoping - We provide support and resources to further define and offer recommendations for energy savings opportunities identified in Phase 1. We fund 75% of the cost of this work with the customer paying a maximum of $7,500 towards these efforts.

Phase 3: Implementation – We work with the customer to compose schedule and conservation goals that translate their energy management plan into actual conservation impacts. Project estimates of the rebates Xcel Energy will provide to support these efforts is also made.

Equipment rebates for this product include both prescriptive and custom measures. The guidelines and rebate levels of the other products are mirrored with enhancements to drive customers to approach conservation on a system level versus a component level. In an attempt to provide tracking consistency, a participant is defined as a rebate processed, versus an individual customer at any phase in the product. Therefore an individual customer may be counted multiple times depending on the number of projects they complete in a year.

Delivery of this product is resource intensive both internally and externally. The magnitude and complexity of the projects require significant resources from our company's technical staff to support not only the project but also the M&V requirements. The more developed relationship with the customer requires significant account management resources and the customization of the offering to match customer needs requires significant marketing resources.

External resources are used to deliver both the Identification and Scoping phases of the product. A third party provider identified through an RFP delivers the Phase 1 session, but given the breadth of opportunities and the volume of studies, we have augmented their resources with additional providers. The product emphasizes building on what the customer has in place, so when possible we include vendors that the customer is already working with who are familiar with the operations. This has included various engineering firms and equipment vendors. We do require that the vendor possess the necessary skills and experience and deliver the required services at a reasonable price. This is achieved by pre-approving proposals for the studies that are delivered in Phase 2 in a fashion similar to Xcel Energy's Engineering Studies.

The product budget was developed based on historical performance with consideration given to the following factors:

- Rebate dollars are increased throughout Xcel Energy's product portfolio to drive additional conservation projects to implementation.
- Customers are reaching a point in the implementation of their energy management plans where a larger percentage will complete system optimizations that will result in them qualifying for rebate bonuses.

B. Goals, Participants & Budgets

Goals and Participants

Participation levels are based on the number of customers currently participating in the product. We generally will not see impacts from new customers in their first year, which is the result of the extended sales cycle for the large process-related capital intensive conservation improvements we are targeting. Although we anticipate an 18-24 month period before we see that type of project installed, we do anticipate being able to influence the installation of some smaller, energy efficiency projects in the interim.

Budgets

The majority of the budget traditionally has been, and will continue to be, spent on consulting services to provide the assessment and scoping phases of the product. Customer incentives (rebates) accounted for a small portion of previous budgets, but as projects come to fruition and more customers join, we anticipate this number increasing. The budgets and goals were developed by reviewing the pipeline for projects, potential for new customers to join and anticipated market.

C. Application Process

Due to the narrow focus of this product, Public Service has identified potential product participants by cross referencing historic electric usage with general industry energy consumption and conservation potential data for Colorado industrial customers using more than 10 GWh per year.

A Public Service account manager serves each large industrial customer. The account manager will approach the customer with a description of the product and facilitate an informational meeting, if appropriate, with the customer, product manager, and other relevant parties. If the customer chooses to proceed with participation in the Process Efficiency product, the account manager will coordinate the walk-through of the customer facility described in Phase 1 above. The remainder of a customer's progression through the product follows the description presented in Section A.

Although custom type projects that receive a rebate through this process will require a preapproval to determine the rebate level, the comprehensive nature of the relationship Public Service establishes with the customer provides a significant sphere of influence that drives energy efficiency into a broad array of business decisions. The result is that a type of conditional preapproval is established for the measures the customer chooses to pursue after being accepted into this product. This also allows us to more effectively manage the costs for the product because projects are not analyzed until the data is collected to accurately project energy savings.

D. Marketing Objectives, Goals, & Strategy

This product is marketed primarily to large industrial customers through Public Service's internal account managers. In addition, the Company will continue to offer segment-specific seminars to introduce new energy efficient technologies to the market and attract customers to participate in the product. The comprehensive nature of the EnVinta process will evaluate energy use throughout a customer's operations instead of focusing on implementation of specific technologies or efficiency upgrades. This holistic approach can lead to the identification of significant conservation opportunities resulting from process or business practice changes.

The product is available to all industrial customers, but because of the minimum conservation potential requirements of the energy management plan, it is expected to attract participants primarily from the large industrial segment. The process load associated with this group of customers has historically been difficult to penetrate with standard conservation measures.

E. Product-Specific Policies

Target customers and projects are Public Service's electric customers who have a minimum annual conservation potential of 2 GWh annually.

Conservation opportunities may be grouped into a single or multiple projects in the energy management plan. This plan will identify the expected sequencing and scheduling for the projects.

If a Process Efficiency study identifies custom projects that are not eligible under the Custom Product policy due to the project having less than a one year payback, it can take credit for the conservation as study-induced savings.

The anticipated time from project initiation to completion is expected to be 18-24 months. No impact will be recorded until a project is fully installed, operational, and the final rebate (if applicable) is issued. This results in significant investment by the utility in the year preceding the impact. There will also be customers who start the sales cycle but withdraw before completing any projects resulting in stranded investments by Public Service. The risk for this should be mitigated through monitoring corporate commitment throughout the energy management self-assessment process.

The incentive to optimize a system versus implement individual projects may also result in a lag between when individual components are installed and when the rebate is paid. These rebates will not be paid until all projects associated with a system are completed.

F. Stakeholder Involvement

The Process Efficiency product is being offered in direct response to requests from customers who have significant conservation potential and a willingness to complete efficiency projects, but do not have available resources or internal expertise.

The CO DSM Roundtable quarterly meetings provide a forum for stakeholder involvement and feedback about this product as well as the full portfolio of Public Service's DSM Products offered in Colorado.

G. Rebate Levels

Participants will be eligible for both study funding and end-use rebates. The funding for studies will be based on the customer contributing 25% of the cost up to a maximum customer contribution for Phase 2 studies of $7,500. Projects will be rebated based on the measures installed and the energy and demand savings. Rebates will be valued according to the levels established in each of the end-use products. Bonus incentives may be given for completion of milestones within the Energy Management Plan, or achievement of conservation exceeding that detailed in the MOU-3 package of projects.

➢ Recommissioning Product

A. Description

Building Recommissioning is the process of reviewing existing equipment and systems within a building to ensure that they are working as efficiently as possible and operating as intended. Public Service's product covers both recommissioning and retrocommissioning. Recommissioning is commissioning a building that has already been commissioned in the past. Retrocommissioning is commissioning a building that has never been commissioned. Public Service's Recommissioning product is designed to assist electric and/or natural gas business customers to improve the efficiency of their existing building operations by identifying existing functional systems that can be "tuned up" to run as efficiently as possible through low- or no-cost improvements.

Examples of typical recommissioning measures include:

- Calibration/tune-up of Energy Management System points
- Adjustment of outside air and return air dampers
- Resetting the chilled water and hot water supply temperatures
- Optimum start/stop of air handlers and makeup air units (early shutdown in the evening, late start in the a.m.)
- Resetting of a chiller's condenser water temperature
- Eliminating simultaneous heating and cooling

Recommissioning consists of two main steps: diagnosis (studies) and implementation. Public Service offers rebates for recommissioning studies and the implementation of recommissioning measures. To facilitate participation from a variety of recommissioning professionals, the customer selects and hires a qualified engineering firm to complete the study and implementation.

The recommissioning product has three different paths a customer can choose:

1. Study and implementation –Customers receive funding for both the study and implementation from Public Service. Public Service works with the customer from the beginning of the project until the end. This path has historically been the most popular choice for Public Service's customers.
2. Fast track implementation- This path is for customers who have either performed a study outside of our program or have identified a few recommissioning measures within their building, without doing a full blown study. To qualify, Public Service will review their study and/or recommendations/savings opportunities to determine recommissioning implementation rebates.
3. Refrigeration recommissioning – This path is focused on analyzing grocery/convenience store refrigeration systems to determine how their refrigeration systems can be tuned up to save energy. Due to the nature of the recommended measures, implementation of the energy savings recommendations occur as the provider is conducting the analysis.

B. Goals, Participants & Budgets

Goals and Participants
To achieve the product goal, Public Service recognizes energy and demand savings as a customer implements the measures identified in their study. Participants are allowed to pick which measures they want to implement and a typical recommissioning study may suggest anywhere from five to ten measures, with varying cost and paybacks.

Budgets
Once goals were established, the budget process is generally the same for Recommissioning as with the other DSM products. Historical cost and participation information is tracked and analyzed to project budgets in advance. For the Recommissioning product, most of the budget is driven by the number of studies completed and the number of customers who implement projects in a given year. The following factors were used while determining the budget: total participants; rebate levels offered; promotional, advertising, and educational opportunities; and labor requirements to achieve the goals.

C. Application Process

Customers learn of the product through their Public Service account manager, direct marketing efforts and through recommissioning providers. If a customer is interested in participating in a study, they should apply for preapproval before they begin the study. To obtain preapproval, the customer will submit an application and a proposal from their recommissioning provider that outlines the scope of the project. After the customer receives preapproval, they can begin the study on their building. When the study is completed, Public Service's internal engineer reviews the study to ensure that it meets our requirements and that the energy savings calculations are reasonable. After Public Service approves the study, the provider will present their final recommendations to the customer and then the customer can receive their study rebate. At this point, the customer will review the study internally and select individual measures to implement. After they finish implementing, they will receive their implementation rebate check for the individual measures.

The typical sales cycle for a regular recommissioning project (study and implementation) takes one to two years to complete. Once preapproved, the study can typically take three to six months to complete and receive Public Service approval. Another year or more may be required for the customer to receive internal budget approval and complete their project.

If a customer wants to participate in our fast track option, where they receive implementation rebates only (no study funding), they should obtain preapproval for implementation rebates before they complete the measures. To obtain preapproval, they need to submit either their study or their project proposal for review. The sales cycle for fast track projects is typically shorter than a regular recommissioning project since they have already completed a study and/or are just requesting a proposal from the provider.

To participate in our refrigeration recommissioning product, a customer can receive instant preapproval via the product website by entering relevant information regarding the project. After

their investigation/implementation is completed, Public Service's technical staff reviews the project to determine energy savings.

D. Marketing Objectives, Goals, & Strategy

Our marketing strategy is to educate customers and trade allies on what recommissioning entails and the benefits of recommissioning a building. Due to the long sales cycle, it is important to continually build the study pipeline to meet future year's goals. To build the pipeline and to attract customers and recommissioning providers, we use various marketing tactics such as direct mail, educational seminars, targeted email newsletters, in person meetings, case studies, and the website. Another tactic we have used is to provide increased study funding to customers if participation is low.

The most common target market for recommissioning is commercial customers that are 50,000 square feet and larger, such as offices, hospitals, and schools. These markets are good candidates due to the following reasons:

- Office real estate owners are looking for quick paybacks on their buildings and want to cut their operating costs without sacrificing the tenant comfort. This is the ideal situation for Recommissioning as many measures are low/no cost with quick paybacks.
- Hospitals are intense energy users, and their energy systems frequently run as if there is full load, although that often isn't the case. There are many opportunities for low cost savings in hospitals and medical centers.
- Schools are closed down for more periods than most buildings and have more opportunities for optimizing their energy systems.

A comprehensive list of marketing materials has been developed for our customers, providers, and our account management team. Available materials include:

- Product feature sheet – explains the features and the benefits of the product
- Study preapproval application – used to obtain study preapproval
- Study rebate application – used to receive study rebate after study has been approved
- Fast track preapproval application – used to obtain fast track preapproval
- Recommissioning guidebook – information booklet that explains recommissioning, benefits, process, etc.
- Provider list – contains providers who have participated in our product in the past
- Case Studies: Hospital, school, office building, hotel, medical and research facility – provides examples of how other customers benefited from participating in recommissioning
- Process flow chart – detail information on the product process
- Provider tips booklet – helps providers through the process
- Customer website – snapshot of our product and links to many useful resources and all of our literature
- Provider website – contains information on our product and tips that are specific to providers participating in the product. The website also has links to all of our literature for easy access.
- Provider calculation tool - helps providers with basic calculations of recommissioning energy savings

Periodically, specific marketing materials that cover timely information are developed, such as:

- Direct mail pieces – promotional piece that is sent to a specific target market either based on size or segment
- Customer newsletters – reminds customer of product offering, highlights product changes/enhancements
- Customer email – a brief email that is available to our account management team to send to their customers
- Customer seminar – educate customers about recommissioning and the benefits
- Provider newsletters – highlights product tips, changes, announcements
- Provider seminar – educate providers on how to participate in the product

Recommissioning providers play a key role in the success of the product since customers rely on providers to identify energy saving opportunities in their building. While provider interest in participating in the product is increasing, we need to identify additional providers to help meet future demand. Our goal with providers is to make sure they understand our expectations for the product and to provide the necessary tools so that they can help customers through the process. To help providers participate in our product, we meet with them one-on-one or in group training sessions to explain the process and requirements and encourage them to work through their projects with us.

E. Product-Specific Policies

Recommissioning has a few policies that are specific to the product which include:

- Study/analysis driven credit: If a customer implements measures that are less than a one year payback or over a 15 year payback, they will not receive a rebate, but Public Service will claim those study/analysis-driven savings. The Company believes that our help identifying and/or analyzing energy efficiency measures provide sufficient influence on the customer's decision to implement those measures.
- Maintenance: The Recommissioning Product claims energy savings for maintenance items identified and implemented through the recommissioning process.
- Rebate/energy savings validity: If at least two years has passed since a project was approved, the technical staff re-analyzes it with current rates to determine if the savings/payback has changed. This re-analysis is conducted prior to issuing a rebate.
- If it is too burdensome for the customer to gather invoices for a project, we will accept only their signatures as documentation of implementation as long as the customer is acceptable with foregoing any rebate they may have qualified for. There are instances where the customer may not qualify for a rebate due to the payback of the measure; the rebate may be very small; and/or it may be difficult to obtain an invoice as the cost of the measure may be imbedded in an invoice that was for a larger project. When this is the case, the customer may be hesitant to spend the time to gather invoices, but they are ok with foregoing an implementation rebate because Public Service helped pay for the study. When this happens, Public Service will claim the credit for the measure, but will not issue a rebate to the customer.

F. Stakeholder Involvement

We value feedback from customers and providers and make an effort to gather their input to ensure the product is effective. As ideas are generated, the team will review and implement if feasible. The product team as well as the trade relations manager has met with all of our active trade allies to discuss product specifics and to obtain feedback. Continuous communication with this group through informal conversations and project work, provide opportunities to keep this line of feedback open.

G. Rebate Levels

The Recommissioning Product offers two types of customer rebates: study and implementation.

Study rebate:
Public Service will pay up to 75% of the recommissioning study cost, up to $25,000. Payment of the remaining balance by the customer shows customer interest in identifying and implementing measures found within their study.

Implementation rebate:
Public Service will pay up to $400 per peak summer kW or $0.08 per kWh saved, whichever is higher, and an additional $4/Dth saved for Public Service natural gas customers, up to 60% of the recommissioning measure cost that are identified in recommissioning studies or preapproved through our fast track option.

By providing rebates, Public Service helps influence the customer's decision to participate in the product to identify ways to use energy more efficiently.

➢ Segment Efficiency Product

A. Description

The Segment Efficiency Product targets particular market sectors with specialized packaged conservation offerings to overcome unique barriers to customer participation. In 2012 and 2013, Segment Efficiency will focus on the commercial real estate sector, specifically office space, to address a historical lag in participation.

The commercial real estate effort is expected to yield four main benefits:

- Large energy savings projects
- Whole building customer-focused analysis
- A large percentage of projects that reach completion
- Increased probability that decision-making processes will incorporate energy efficiency best practices in the future.

The commercial real estate component will target owner-occupied and leased buildings of at least 50,000 square feet. The buildings within this segment are, in many cases, greater than one million square feet. This product is a comprehensive whole building evaluation of energy savings opportunities. The Segment Efficiency Product will offer customers one-on-one energy efficiency counseling as well as financial incentives for energy efficiency improvements based on technical studies. The Company will provide an energy assessment report identifying energy efficiency opportunities, an optional engineering study providing an investment grade analysis, and incentives for measure implementation and installation. The Company's existing prescriptive and/or custom offerings will then be incorporated into rebate packages that are attractive to this customer segment.

Public Service already has an extensive portfolio of products built around end-uses and technologies. Initiatives like the Segment Efficiency provide opportunities to package such products and services so as to best elicit positive responses from eligible customers. Such efforts are not so much as creating new products and services, but rather to bundle these in ways that best meet the needs of readily differentiated customer segments.

B. Goals, Participants & Budgets

Goals and Participants

The pipeline of potential energy savings measures increased in 2011 through increased participation and marketing efforts.

Savings will come through myriad prescriptive (lighting, motors/drives, cooling, boilers), custom (lighting, motors/drives, cooling, energy management system), and recommissioning measures. Estimated energy savings are based on participation estimates and the average savings per participant from existing products.

Participation was based in part on the 2011 product goal and participant levels and the increase pipeline of potential energy saving measures yet to be implemented.

Budgets

Once goals were established, the budget process is generally the same for Segment Efficiency as with the other DSM products

For the Segment Efficiency Product, the product rollup includes the rebates and costs associated with performing the studies, which will identify the measures, as well as the implementation-related costs and rebates. Product planning and design, study rebates, and implementation rebates drive the majority of the budget. The following was used to identify these specific drivers.

- **Study Rebates:** Based on an estimated $20,950 rebate for investment-grade engineering studies.
- **Implementation Rebates:** Based on the number of participants in each end-use. An average rebate for each end-use was used to come up with a total implementation rebate for each year.
- **Contract Outside Vendor:** Based on estimates for participation and study costs. The provider will complete customer phone interviews, onsite visits, energy assessment reports, and provide product support as needed.

C. Application Process

Segment Efficiency is introduced primarily through the Company's account managers to commercial real estate customers. In most cases, the Company leverages existing relationships with this customer group to bring participants to the product. Customers submit an application to enter the product. Once the information is received, the product study provider will contact the customer to set up a phone interview and onsite walk-through.

There are three primary phases within the product process:

- Energy Assessment Report
- Investment-Grade Engineering Study
- Implementation Phase

In the first phase, the Company's study provider and account manager will interview the customer by phone and an engineer will visit the site for a building walk-through. Customers receive a report with their building's ENERGY STAR Benchmark Score, Energy Systems Rating and an exhaustive list of energy conservation opportunities (ECOs) identified within their buildings. This process typically will take three to four weeks following the onsite walk through. The study provider will be paid a fixed amount per study and customers will be billed $2,500/building on their Xcel Energy bill.

The study provider will note in the energy assessment if there are any measures that require additional engineering analysis. If the customer chooses to go through the investment-grade engineering study, they will determine what vendor they'd like to use, submit a study preapproval application with a project proposal, estimated energy savings, and a study cost. Public Service will review the application and determine funding levels of up to 75% of the cost of the study, not to exceed $25,000. Upon completion of the engineering investigation, the customer pays for the study and submits a study rebate application to receive their rebate.

Typically, customers will plan for a phased approach based on resource availability. In some cases, customers will implement findings immediately based on the energy assessment report. For those requiring additional analysis, measures may not be implemented for 24 to 36 months following product enrollment. Customers will utilize our existing end-use product rebate applications to apply for implementation rebates and be eligible for up to a 30% bonus rebate, not to exceed 75% of project cost.

D. Marketing Objectives, Goals, & Strategy

The commercial real estate sector was identified as the first target of the Segment Efficiency product because it presents unique challenges in the inherent complexity with landlord-tenant lease and ownership issues. Public Service's marketing of this product will focus on addressing these barriers by providing a credible, consistent message to customers.

In order to establish credibility with commercial real estate customers, Public Service will seek out endorsements from trade partners such as the National Association of Industrial and Office Properties (NAIOP) and the Building Owners and Managers Association (BOMA). The Segment Efficiency Product will be marketed through trade newsletters and events to members of participating building organizations. Product awareness will be generated at multiple levels. Account management, trade publications, trade relations managers and local associations such as NAIOP and BOMA will be utilized.

This product will:

- Deliver cost-shared financial and engineering consultations, benchmarking, and related outreach/assessment activities.
- Propose a specific call to action within the product lifecycle to capitalize on additional benefits such as a 30% incentive bonus for all measures that are implemented.
- Educate customers about energy efficiency technical assistance and financial incentive products with the goal of increasing uptake for these products among this hard-to-reach sector.

Marketing Strategy	**Description**
Product Collateral	• Feature Sheet • Application forms • Sample energy assessment • Product process flow chart
Newsletter Articles	• Energy Solutions business newsletter • Energy Exchange trade newsletter • BOMA newsletter • NAIOP newsletter
Direct Mail	• Product introduction, benefits, and how to sign up.
Advertising	• BOMA newsletter • NAIOP newsletter

	• Denver Business Journal • CO Real Estate Journal
Customer Outreach	• BOMA meetings • NAIOP meetings

E. Product-Specific Policies

The Segment Efficiency Product is open to commercial real estate buildings equal to or greater than 50,000 square feet. The individual measures will follow end-use product guidelines and policies.

F. Stakeholder Involvement

The product team meets with all of our active trade associations, and trade allies to discuss product specifics and to obtain feedback. Continuous communication with these groups through informal conversations and formal meetings, provide opportunities to keep this line of feedback open.

Bi-Weekly Status Meetings - The Public Service product team and study provider meet to review the status of all projects to ensure that we are meeting customer needs and deadlines, and to help accurately forecast implementation measures to identify gaps and ensure goals are met.

G. Rebate Levels

The Segment Efficiency Product provides financial incentives in the form of study subsidies and rebates for the purchase of energy efficiency measures. Energy Assessments will be billed to the customer at $2,500 per building (roughly 25% of study cost). Engineering studies will be reimbursed at 75% of their cost (up to $25,000). Measures will be rebated at end-use product levels with an additional bonus of up to 30%, not to exceed 75% of project cost.

➢ Self-Direct Product

A. Description

The Self-Directed Custom Efficiency Product provides large commercial and industrial electricity customers in Colorado the opportunity to self-fund electric energy saving projects at their facilities. Customers who engineer, implement, and commission qualifying projects will receive rebates to offset their costs to implement efficient projects. The dollar value of the rebates will be based on the amount of energy savings achieved. Because the Self-Direct Product shares many of the features of the Custom Efficiency Product, it should be viewed as a traditional custom product targeted towards a unique subset of customers.

A fundamental principle and differentiating factor of the Self-Direct Product is that the customer performs the majority of the design, engineering, measurement & verification (M&V), and reporting work associated with the energy saving projects. Large customers with energy saving evaluation resources may choose to participate in the Self-Direct Product because they believe that it is beneficial for them to perform more of the administrative and engineering activities, and in doing so, receive a higher rebate over Public Service's other DSM products.

Participation in the Self-Direct Product will generally follow the sequence below. Public Service prequalifies customers who are eligible for participation in the Self-Direct Product. Once prequalified, a customer identifies the opportunity, then develops and submits a project application. Public Service provides confirmation of application receipt, reviews the application, and requests additional information as necessary. Public Service notifies the customer of approval or denial of the application, expected rebate amount, expected energy savings and mutually agreed on M&V plan. Public Service encourages a project planning meeting to discuss Public Service's application preparation and project details.

If the customer chooses to implement the measures, they sign a letter, which includes the M&V plan, stating that they intend to implement the preapproved measures. After the customer signs their letter of intent, they must conduct any pre-installation monitoring required in the M&V plan, and submit the data to the Company. The Company must approve this data before the customer may implement the efficiency measures. The customer then implements the measures and performs follow-up monitoring as described in the M&V plan.

The customer then submits a project completion report. Public Service will review the report, request any additional data, and calculate the final rebate. The rebate will be paid by check upon completion of project and Public Service's approval of project completion report.

B. Goals, Participants & Budgets

Goals and Participants

The Self Direct Product was launched in 2009 and projects were submitted that began to fill the pipeline. In 2010 ten projects were completed and rebates were paid. Several preapproved projects were being implemented in 2011. 2012-13 goals were established by evaluating the completed projects that occurred in 2010 and projects in the pipeline in 2011.

Budget
Completed 2010 projects during and projects in the pipeline line in 2011 were used to develop the 2012 -13 budget. The majority of the budget will go toward rebates for customers.

C. Application Process

Customers are most likely to hear about the Self-Direct Product through their account managers. Customers must be prequalified for participation in the Self-Direct Product before submitting a Self-Direct project application. The customer is responsible for providing the Company with justification for eligibility (prequalification) in the Self-Direct Product. The Company will respond to a customer request for prequalification within 30 working days or other agreed to period. Justification must include, but is not limited to, a list of the customer's account numbers, locations, and meter numbers to be aggregated.

Once prequalified, the customer will submit a project application for each Self-Direct project. Self-Direct project applications may contain a single measure, or a combination of multiple measures at a single or multiple locations. All energy conservation measures must be at customer locations receiving electric service from the Company.

D. Marketing Objectives, Goals, & Strategy

The Self-Direct Product is marketed to large customers who have expressed an interest in overseeing their own DSM energy efficiency improvement projects. Other marketing efforts will focus on customers based on their energy use, conservation potential, and in-house experience and expertise with energy efficiency improvement projects.

E. Product-Specific Policies

The Self-Direct Product is open to Public Service commercial and industrial electric customers who have an aggregated peak load of at least 2 MW in any single month and an aggregated annual energy usage of at least 10 GWh. The customer of record must be the same for all aggregated meters to qualify for this product. New customers or customers with new facilities that demonstrate, to the satisfaction of the Company, predicted demand and usage above the minimum requirements, may participate in the Self-Direct Product.

The Total Resource Cost (TRC) value for each application will be calculated based on the combination of all measures proposed in the application. The TRC ratio must be equal to or greater than 1.0. The customer will calculate a final project TRC value in the completion report using the actual implementation costs, energy conservation data, non-energy costs and/or benefits and the calculation methodology provided by the Company. The Company will verify the final TRC for the completed project during the review of the project completion report.

Participants in the Self-Direct Product will be allowed to participate in other conservation products offered by the Company, but may not be rebated for the same efficiency measure through two different products. Customers may enroll their new buildings in either the Self-Direct Product or the New Construction Product, but not both. If the customer chooses to participate in the Self-

Direct Product for a new building project, the design work and energy modeling shall follow the protocol established in the New Construction Product; however, the customer will be required to perform the energy modeling internally, or pay for all energy modeling costs.

The Company understands that some of the information provided by customers to document project assumptions and calculations may be of a sensitive nature. Specifically, operation and maintenance (O&M) savings associated with implementation of a project may contain information that the customer deems privileged. The Company will treat Participant O&M data in accordance with any Stipulation and Settlement Agreements. Specifically, in the absence of a written agreement signed by the Participant authorizing disclosure of the Participant's operations and maintenance savings or expense data ("Participant O&M data"), all such Participant O&M data shall be treated as proprietary and trade secret information that is privileged and highly sensitive. Accordingly, the Company will use Participant O&M data to evaluate the cost-effectiveness of all DSM projects and products that use the Custom Efficiency analysis process. Public Service will not include Participant O&M data in its incentive calculations unless it has been authorized to disclose such data by written agreement.

The Company will only disclose the results, by cost category, of calculations made using the privileged values, but not the values themselves, upon request by members of the Commission, its Staff, or the Office of Consumer Counsel. The Company will provide the Participant 10 business-days notice of the place and time of the inspection and provide the opportunity for a customer representative to be present during the inspection. The Company shall maintain a log of the persons, dates, times and documents reviewed.

Within 45 days following the end of each quarter, the Company will provide a report to the Commission, its Staff, and the Office of Consumer Counsel on the number and value of rebates spent on measures whose cost effectiveness depends on the Participant O&M data. In addition, this report will include the TRC calculations on the Self-Directed Custom Efficiency projects approved by Public Service.

Incremental Costs

Incremental costs are all actual, incremental expenses reasonably incurred by a customer in connection with the construction, installation, or implementation of an approved Self-Direct project, including but not limited to equipment costs, engineering and consulting expenses, and removal of old equipment. Incremental costs represent the cost incurred to achieve energy efficiency levels that exceed industry standards or existing equipment efficiency based on practices generally utilized by energy engineering professionals and/or reference to publically available resources for energy engineering.

Project Application

The project application must include the following components:

- Description of the customer including electric and gas rate classifications, business activities at involved sites, roles of personnel involved in the project, history of and expertise with energy efficiency projects.
- Description of the proposed project(s) including technology, locations, implementation schedule, expected measure life, how the projects fit into the customer's operations, and a

description of previous implementations of similar technology or projects. The project description should include product specification sheets, white papers, quotes from vendors to validate cost estimates, and other supporting documentation. Self-Direct project applications may contain a single measure, or a combination of multiple measures at a single or multiple locations. All energy efficiency measures must be at customer locations receiving electric service from the Company.

- For new buildings, the application must contain computer energy modeling specific to the planned building to forecast the base case and efficient energy use. Computer modeling should be in accordance with the protocol specified in the Energy Design Assistance Product.
- Engineering calculations to forecast energy and demand savings, non-energy benefits and costs, and the estimated rebate.
- Benefit-cost calculations to determine the TRC Test, including a discussion of the sensitivity of the TRC and payback to various inputs, and the perceived accuracy of the inputs.
- Description of the controls the customer will use to reduce the likelihood of project cost and schedule overruns.
- Description of the proposed monitoring activities that will be used to document demand and energy savings. Pre- and post-installation metering and verification will be required for all projects with predicted energy savings greater than 0.25 GWh unless the Company and customer agree upon another methodology. The Company reserves the right to require measurement and verification on projects of any size.
- Any information reasonably requested by the Company to document and support the application.

Project Completion Report

The format of the project completion report must include the following components:

- Description of all deviations from the application package including equipment substitution, cost adjustments, operating procedures, etc;
- Documentation of all actual costs incurred including invoices, internal labor, incremental operation and maintenance costs, etc;
- Raw monitoring results and engineering calculations to demonstrate actual energy and demand savings based on monitoring results;
- Requested rebate amount; and
- Any information reasonably requested by the Company to document and support the completion report.

F. Stakeholder Involvement

Customers, trade allies, and other stakeholders are currently engaged at the specific project level. Feedback is garnered individually from participants and once a trend develops (positive or negative), Public Service makes a change to the product design. If it is a small change, it is then discussed internally and possibly with a few key trade allies and, if deemed acceptable, implemented. A larger change would possibly involve review by the product's external technical resources or other third party consultant.

G. Rebate Levels

Public Service will pay rebates based on the actual savings from a project, up to $525 per customer kW or $0.10 per customer kWh. Rebates will be given for either peak demand or energy savings for a project, not both, and will be limited to 50% of the incremental costs of the project. Rebates will apply to new and long-term leased equipment, but not to used equipment. The maximum lifetime and payback for a measure is limited to the lease duration. All measures submitted in a Self-Direct application will be combined for calculation of financial tests and rebate levels. Rebates will not be given for applications with expected paybacks of less than one. Rebate levels will be adjusted downward so that no project (with rebates included) has a payback less than one year. For rebate calculation purposes, kW saved shall reflect the reduction in the customer's peak demand (kW) as a result of the energy efficient project. For rebate calculation purposed, kWh saved will be the annual kWh saved as a result of the energy efficiency projects.

The expected rebate for the project will be communicated to the customer upon preapproval. The final rebate amount will equal the preapproved rebate amount if the actual project costs and energy/demand savings are within 10% of the estimated values and the TRC ratio for the completed project meets the criteria stated above. If actual project costs, energy or demand savings differ from the estimated values by more than 10%, the customer should include revised calculations for the requested rebate in the project completion report. Customers may be required to return their rebate, or a portion thereof, if the Commission determines that the Company is not allowed to recover costs associated with the project.

➢ Small Business Lighting Product

A. Description

The Small Business Lighting Product offers free lighting audits and rebates for energy efficient lighting upgrades and special services to small and mid-sized business customers of Public Service Company of Colorado ("Public Service" or the "Company") with peak demand of up to 400 kW. In addition to lighting, the customer will be informed of other energy saving opportunities available for rebates, such as heating, ventilation, cooling, motors, and recommissioning of their existing equipment.

The product specifically targets barriers that often prevent small businesses from investing in energy efficiency products: limited financial resources and time, limited knowledge of lighting products and a lack of access to quality contractors. To address these issues the product offers:

- Intensive outreach to bring the service to the customer, rather than relying on the customer to seek it out;
- Simple, one-stop services that hold customer time requirements to a minimum;
- Computerized lighting audits and reporting systems that generate site-specific feedback and reports;
- Objective recommendations backed by the credibility of the Company;
- Substantial rebates to offset the cost of installing energy efficient fixtures and lamps; and
- Assistance with preparing and submitting the rebate paperwork to the Company.

A similar product in Minnesota, the One-Stop Efficiency Shop, administered by the Center for Energy & the Environment (CEE), was used as a model for the Colorado Small Business Lighting product.

In 2009, the Company conducted a Request for Proposal and selected Franklin Energy Services (Franklin) as the implementer for the Small Business Lighting Product. Franklin is responsible for the following: provide a walk-through audit of a facility focusing on the lighting systems, provide a report with recommendations including level of potential energy savings, serve as a liaison between the customer and the contractor during the retrofit, and complete and submit the rebate paperwork

B. Goals, Participants & Budgets

Goals and Participants

In support of the business program's growing goals for energy savings and demand reduction, Small Business Lighting's primary objective is to use rebates and other incentives to motivate small- and mid-sized customers to replace less efficient lighting with energy efficient lighting systems.

Energy savings goals, including average energy savings per customer from CEE's first two years of operation in Minnesota, were initially used to determine the Colorado goal. CEE's Minnesota product is a good proxy because the market size is similar between MN and CO.

The participation goal was derived from prior year participation in Colorado; trade participation and feedback; lighting industry, economic and market trends; average project size and historical participation in the Minnesota CEE product.

Increasing federal efficiency standards will impact Small Business Lighting during the 2012-13 filing period. Beginning January 1, 2012 – the effective date of the Energy Independence and Security Act (EISA) of 2007, which regulates standard incandescent bulbs – screw-in CFL rebates will no longer be available because Public Service believes CFLs have become standard practice for business customers. Beginning in 2013 – as guided by Department of Energy (DOE) Rulemaking – changing the present T12 technology baseline to a stricter T8 baseline will significantly reduce fluorescent fixture reportable savings – a substantial proportion of total savings since the Small Business Lighting product was launched.

Budget

Budget was based on prior year actual participation and costs, as well as historical data from CEE's Minnesota product. The largest budget driver in the Small Business Lighting product is the lighting audit because it is free to the customer. The Company has projected an increase in costs in 2011 to accommodate increased participation.

With increasing DSM goals in 2012-13 and beyond, additional budget dollars assume product expansion, incorporating rebates for emerging technologies such as LEDs, and offering additional incentives to remove less efficient technologies from the Colorado commercial and industrial markets. Experience and trending from CEE's Minnesota product is used as a checkpoint. For the Colorado Small Business Lighting product, contract/outside vendor (Franklin) time and cost to cover the customer lighting audit and recommendation, rebates and promotional expenses drive the majority of the budget.

C. Application Process

The Company promotes Small Business Lighting mainly through outreach efforts of the product implementer, Franklin. Secondary outreach occurs through the Company's website, direct mail, email promotions and through the lighting trade. The Business Solutions Center is available for all small- and mid-sized business customers, who may inquire about our rebates. Energy Efficiency Specialists are expected to refer new leads to Franklin for follow-up. Franklin is expected to aggressively promote the product to increase participation.

The application process is similar to our Lighting Efficiency prescriptive product. The first step in the process is to conduct a lighting audit at the customer's facility. Then, Franklin will assist customers in applying for rebates by completing the application and including a detailed invoice for the newly installed equipment. The replacement of fixtures for retrofit situations must be a one-for-one replacement that will result in energy savings. The equipment must be new and meet all the qualifications detailed on the application. After the customer has installed the equipment, the application and invoice must be submitted to the Company within twelve months of the invoice date. Once the paperwork is completed and submitted, rebate checks will be mailed to the customer as indicated on the application within six to eight weeks. Occasionally, Franklin will assist the customer in applying for a Custom Efficiency lighting rebate for projects that do not fit into the prescriptive menu. Project analysis and preapproval of Custom Efficiency lighting projects is

required prior to equipment purchase and installation, and Franklin assists the customer with that process.

D. Marketing Objectives, Goals, & Strategy

The key marketing objective is to raise awareness, interest and participation in the Small Business Lighting product, contributing to goals for energy savings and demand reduction. The product is marketed primarily through Franklin. They are required to meet the implementation goals for which they are contracted and will determine the marketing strategies needed to meet them.

The Company will also continue to take lessons from the Minnesota product. CEE has had a great deal of success in lining up audits through the use of telemarketing and through referrals from contractors, customers, and Company staff. Over time, referrals have become a significant portion of the audits and we hope to have that same result with Franklin for the Colorado product.

The target customers for this service are small to mid-sized businesses of up to 400 kW annual demand. All market segments are eligible and the product will be available to all customers. Our Strategic Marketing group identified small business as a customer segment that has historically had low participation in energy efficiency products due to barriers such as:

- Lack of awareness of energy savings potential in lighting system upgrades;
- Lack of time to complete all the necessary steps to upgrade lighting system;
- Lack of capital to make lighting improvements;
- Uncertainty of value when facility is not owner-occupied; and
- Limited availability of qualified contractors due to small margins on small business lighting projects.

The Company selected Franklin via request for proposal to implement the Small Business Lighting product. Franklin will perform these product responsibilities:

- Customer is to receive a free lighting audit when they agree to participate in the product;
- Franklin will look for other energy savings opportunities during the audit and, at a minimum, make customers aware of other rebate opportunities;
- Franklin will build a network of qualified contractors, approved by the Company, to aid the customer in implementation of lighting retrofits;
- Franklin will serve as a liaison between the customer and the contractor;
- Franklin will follow up with the customer to ensure that recommended measures get implemented and assist the customer as needed to hire a contractor
- Franklin will prepare and submit the customers' application for rebate.

<u>Marketing Messages Driven by Future Regulatory Requirements</u>

In the coming years, Small Business Lighting energy savings potential will be affected by necessary compliance with several new Federal and State legislative rules (example: Department of Energy Rulemaking on fluorescent lighting technology). An important marketing strategy is to keep Energy Efficiency Specialists, trade partners and customers aware of the requirements and timing deadlines for these pending energy efficiency standards. These new rules will also influence Lighting Efficiency product development, such as the expansion of LED lighting applications and the phasing out of obsolete technology.

E. Product-Specific Policies

Small Business Lighting has a number of product-specific policies:

- The product is for customers with peak electricity demand of 400kW or less.
- All rebated equipment must be new, meet all product rules and requirements, and the application must be submitted within twelve months of the invoice date.
- Rebates assume a one-for-one replacement of retrofit fixtures that will result in energy savings.
- One completed paperwork is submitted, rebate payments are usually issued in 6 to 8 weeks.
- A separate, Small Business Lighting parking garage retrofit rebate application is available for prescriptive projects to replace high intensity discharge technologies (high-pressure sodium and metal halide) with more efficient fluorescent options.
- Preapproval is required for the occasional Custom Efficiency small business lighting project prior to the purchase and installation of lighting equipment. The customer has up to 24 months after the preapproval date to implement the lighting project. Custom projects that exceed their timeframe, or have significant equipment deviations from the original plan, require reanalysis and approval.

F. Stakeholder Involvement

Franklin has considerable influence on the success of the product, as they will be the face of the Company to potential participants. The Company expects that Franklin will engage stakeholders in the implementation of this product.

Lighting trade partners are an important stakeholder as they will be performing the lighting retrofits as well as promoting the product to customers. Franklin has begun building relationships with several trade partners. The Company expects Franklin to grow the trade partner list of qualified contractors available for lighting retrofits. The trade partners on this list will have a vested interest in the product's success, as they will benefit from the work generated by the audits.

Stakeholder involvement in the Small Business Lighting product also comes through a Small Business Lighting Advisory Board and the quarterly DSM Roundtable meetings. The Small Business Lighting Advisory Board was formed as a collaborative effort between several key lighting professionals and the Company's management team. The objectives of the board are to identify gaps in our product offerings, suggest areas of improvement, and to offer a forum for open discussion of lighting topics. The board will continue to meet on a regular basis or as long as needed.

G. Rebate Levels

Prescriptive rebates will be paid based on similar technologies listed in the Lighting Efficiency product description.

➢ Standard Offer Product

A. Description

The Standard Offer Product is designed to provide Public Service business electric and retail gas customers, who have little or no upfront capital, the opportunity to participate in the implementation of energy saving measures through Performance Contracting. Performance Contracting allows the customer to pay for the improvements through the energy savings that result. Targeted primarily to public entities such as K-12 schools, colleges and universities, state, local, and country government, all business customers are eligible to participate. The Standard Offer program works closely with the Governor's Energy Office (GEO).

Business customers contract with an Energy Service Company (ESCO) who will identify, evaluate energy saving opportunities, recommend, and install a package of improvements to be paid through the savings they generate. The ESCO will guarantee that savings meet or exceed annual payments for the project.

The ESCO will provide a Technical Energy Audit (TEA), which is an investment grade audit, to Public Service for review of the measures. Agreed upon measures will be "bundled" into a comprehensive project that qualifies for both kW, kWh and Dth rebates.

The Standard Offer program allows alternate forms of energy audits other than a TEA for multiple building projects. A single application can be submitted for multiple premises. Both TEA's and alternative energy audits must be individually approved to qualify for rebates. Public Service will pay 50% of the study costs up to $0.10 per square foot.

The initial phase of the Standard Offer Product involves the customer submitting to Public Service a proposal for a TEA or Statement of Work and a cost estimate for completing the study. This is submitted along with the Technical Energy Audit (TEA) Preapproval Application for the TEA rebate. This should be submitted prior to completing the full TEA audit. The technical energy audit is typically performed by an Energy Service Company (ESCO), but also may be performed by the customer. A list of prequalified ESCO's is available through the Governor's Energy Office. The audit follows the format established by the Governor's Energy Office. The customer receives a final report detailing the energy conservation opportunities, financial analysis, and potential funding mechanisms. Additionally, the audit report provides additional calculations detailing the technical inputs required for the project's benefit-cost analysis.

B. Goals, Participants & Budgets

<u>Goals and Participants</u>
Launched in 2009, the program has had few projects complete the entire project implementation process. Projects initiated in 2009 and early 2010 are being completed in 2011. Participation has continued to increase, resulting in an extensive pipeline of projects expected to be completed within this filing period.

Goals have been determined by evaluating the project cycle time and the expected closing date of projects in the pipeline.

Budget
The majority of the budget will provide rebate dollars to customers. Of the budget proposed for customer rebates, it is estimated that approximately one third will be study rebates and the remaining two thirds will be implementation rebates.

C. Application Process

Due to the comprehensive nature of the Standard Offer Product, Public Service expects the sales and completion cycle to range from 12 to 24 months. The Standard offer Product is marketed through the account managers and ESCOs, as well as supported by the GEO. The Standard Offer process involves filling out applications at the various stages of the project as follows:

1. The customer fills out the Technical Energy Audit preapproval application. This should be completed before the study begins. The account manager or ESCO can assist with this process.
2. The customer fills out the Technical Energy Audit rebate application once the TEA is completed. After all supporting documentation is supplied including the TEA, commitment to install bundled measures, signed monitoring plan, and TEA invoices, the study rebate can be paid.
3. The customer fills out the Standard Offer Measure Rebate Application at the completion of the project. Measures are verified by the account manager and submitted for rebate.

D. Marketing Objectives, Goals, & Strategy

Primarily, Public Service relies on the Governor's Energy Office and participating Energy Service Companies to market this Product to customers. The Company expects that state and local governments, school districts and higher education institutions will be particularly interested in this Product. Additionally, Public Service will work with ESCOs to identify conservation opportunities with the Standard Offer Product outside of the public sector buildings. To supplement the efforts of the GEO and ESCOs, Public Service plans to offer training seminars to ESCOs, as well as targeted customer groups such as school administrators and government buildings staff. Additional communication formats including newsletters and direct mailing may be used to increase customer awareness.

E. Product-Specific Policies

The customer may perform the technical energy audit using a pre-qualified ESCO, or internally.

Public Service will not rebate for measures identified through the TEA that are outside of the scope of the Company's DSM product offerings. For example, although the audit may identify the installation of a solar photovoltaic system as a worthwhile investment, this type of measure is not rebated through Public Service's DSM products, and therefore will not be covered under the Standard Offer Product. These measures may however be eligible for rebates under alternate Public Service programs, such as Solar*Rewards. Public Service will identify these opportunities during

the technical energy audit review process, and provide assistance with the appropriate supplemental Public Service rebate application process.

All measures agreed to in the final audit and construction contract/letter of intent will be evaluated together as one bundled project. The benefit-cost analysis and rebate amount will be calculated on the aggregated incremental costs and savings of the bundled project. Prescriptive rebates will not be issued for measures implemented in the Standard Offer Product. Instead, predicted and actual energy and demand reductions (measured through M&V) will be used to determine the rebate amount. For example, installation of a variable frequency drive on a 10 hp motor would not be issued a rebate based on the Motor & Drive Efficiency Product prescriptive dollars per horsepower standard. Rather, predicted and actual savings from the installation of the drive would be measured and calculated as part of the entire package of implemented measures. The amount of the rebate for the bundled project would be calculated based on the methodology described in section H, Rebate Levels.

F. Stakeholder Involvement

Public Service continues to meet with the Governor's Energy Office and the Colorado Energy Services Coalition to maximize the effectiveness of the Standard Offer Product. Going forward, GEO will play a significant role in challenging schools, higher education institutions, state, and local government building participation. Additionally, the ESCO community, customers, and the GEO will provide valuable feedback through discussions with the product portfolio manager on possible product improvements.

G. Rebate Levels

Public Service will offer two main types of rebates in the Standard Offer Product. Study rebates will be given to offset a portion of the cost for the technical energy audit, and implementation rebates will be given based on actual energy and demand reductions to offset a portion of the incremental costs to implement the bundled project. The combination of study and implementation rebates are intended to encourage conservation projects, especially in educational and government buildings where peak demand may not correlate with system wide peak demand, and annual operating hours may vary significantly from project to project.

Study rebates will be provided for preapproved energy audits at 50% of the cost up to $0.10 per square foot. Implementation rebates apply to new and long-term leased equipment, but not to used equipment and will be capped at 60% of the bundles incremental cost. Rebate levels are based on actual savings up to $250 per kW saved and $0.05 per annual kWh saved. Rebates will be provided to Public Service retail gas customers for gas conservation projects up to $4.00 per annual dekatherm.

Implementation rebate levels will be calculated based on the initial M&V baseline results for the agreed upon bundled project. M&V data from each year will be reviewed to determine if the implementation rebate amount was appropriate. Additional rebate dollars will be given if the actual conservation is greater than 110% of the conservation calculated for the implementation rebate. Conversely, if the actual savings are less than 90% of the estimated savings, the customer will be

required to return the portion of the rebate commensurate with any rebated savings above the actual measured savings.

Residential Program

A. Description

Public Service will continue to offer a wide range of product offerings to serve the Residential Program in 2012 and 2013. The Residential Program will be available to over 1.13 million electric and 1.18 million natural gas customers. Customers traditionally reside in single-family homes, multi-family homes, and apartments/condominium residences. To address this varied set of customers, the Company will offer a unique set of products targeted to reach the vast majority of the residential market and provide customers with multiple opportunities to participate.

While the Business Program focuses on customers with large energy savings projects, the Residential Program is truly a mass-market program that will touch thousands of customers annually. The products will be implemented to allow large numbers of customers to participate and benefit from the products.

The portfolio of products focus on educating our customers on energy efficiency and giving them simple ways to participate and encouraging them to make long-term commitments to reduce their energy usage. The Company offers a comprehensive set of products including prescriptive rebates for heating and cooling equipment, whole house solutions for new or existing homes, lessons on energy efficiency to school-aged children, and recycling of old secondary refrigerators. The program also contains Saver's Switch, a demand response product available to residential customers.

Products

A thorough portfolio of residential products is planned for 2012 and 2013. The full list of residential products is provided in the table below, along with rankings and other market data. Public Service is adding new energy efficiency measures through this Plan, including ground source heat pumps and electric heat pump water heaters.

Table 9: Residential Program Product Rankings

Product Name	Product Ranking[12]	Type of Product	Fuel
Home Lighting & Recycling	1	Prescriptive	Electric
Evaporative Cooling Rebates	4	Prescriptive	Electric
Saver's Switch	7	Prescriptive	Electric
Insulation Rebate	8	Prescriptive	Electric/Gas
School Education Kits	10	Prescriptive	Electric
Heating System Rebates	19	Prescriptive	Gas
ENERGY STAR New Homes	22	Prescriptive	Electric/Gas
High Efficiency Air Conditioning	24	Prescriptive	Electric
Refrigerator Recycling	25	Prescriptive	Electric
Home Performance with ENERGY STAR	26	Prescriptive	Electric/Gas
Water Heater Rebate	28	Prescriptive	Electric/Gas

In developing and refining the portfolio of products, Public Service worked closely with external consultants familiar with residential and low-income products nationally. This included assessing possible products, developing technical assumptions specific to efficiency measures and the Colorado climate and energy codes, and performing an initial cost effectiveness test. The Company researched other utility offerings to learn about new products, understand their challenges, and discover how the existing products could be improved. The Company worked with industry consultants and vendors such as E-Source, American Council for an Energy Efficient Economy, and Consortium for Energy Efficiency to learn about activities across the nation. In addition, Public Service spoke with several local energy industry members to shape and refine products and discuss partnership opportunities. The list of key external energy efficiency experts is located below in the Stakeholders section.

B. Overall Goals, Participants & Budgets

The Residential Program products have a large reach to customers and provide a wide portfolio of offerings that will allow all customers to participate. Planned achievements of 215,232,769 GWh and 459,318 Dth over the two-year period account for 31% of the Company's total electric energy savings goal and 56% of the total natural gas goal. The most energy efficiency savings within the Residential Program will come from Home Lighting & Recycling, School Education Kits, Evaporative Cooling, and Insulation.

[12] Rankings are done by determining market segments that could participate in the program, customer classes available, total projected savings, MTRC score, participation, and participation % of market. The entire portfolio ranking can be found in the Appendices of this DSM Plan filing.

Table 10a: 2012 Electric Residential Program Budgets & Goals

2012	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Residential Program					
ENERGY STAR New Homes	2,580	$532,721	89	1,543,624	1.30
ENERGY STAR Retailer Incentive	0	$0	0	0	
Evaporative Cooling Rebates	4,298	$2,282,325	6,042	3,771,471	9.82
Heating System Rebates					
High Efficiency Air Conditioning	2,010	$2,405,385	2,871	2,372,400	1.31
Home Lighting & Recycling	522,500	$5,440,714	11,962	95,564,399	3.59
Home Performance with ENERGY STAR	200	$268,341	295	307,243	3.14
Insulation Rebate	3,120	$99,505	540	428,993	3.65
Refrigerator Recycling	1,800	$492,459	173	1,274,406	1.40
School Education Kits	30,000	$1,538,568	535	5,809,487	1.45
Water Heater Rebate	200	$100,100	59	517,787	1.37
Residential Program Energy Efficiency Total	**566,708**	**$13,160,118**	**22,567**	**111,589,811**	**4.82**
Load Management Program - Residential Saver's Switch	**19,500**	**$13,326,964**	**20,865**	**697,183**	**3.97**
Residential Program Total	**586,208**	**$26,487,082**	**43,431**	**112,286,994**	**4.42**

Table 10b: 2012 Gas Residential Program Budgets & Goals

2012	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Residential Program						
ENERGY STAR New Homes	2,580	$2,591,808	72,521	27,981	$1,605,837	1.26
ENERGY STAR Retailer Incentive						
Evaporative Cooling Rebates						
Heating System Rebates	6,500	$944,327	53,514	56,669	$1,534,523	1.44
High Efficiency Air Conditioning						
Home Lighting & Recycling						
Home Performance with ENERGY STAR	200	$250,814	7,770	30,978	$126,408	1.21
Insulation Rebate	8,000	$1,435,679	81,533	56,790	$1,987,942	1.26
Refrigerator Recycling						
School Education Kits						
Water Heater Rebate	3,070	$341,828	11,816	34,568	-$808	1.00
Residential Program Energy Efficiency Total	**20,350**	**$5,564,456**	**227,154**	**40,822**	**$5,253,903**	**1.28**
Load Management Program - Residential Saver's Switch						
Residential Program Total	**20,350**	**$5,564,456**	**227,154**	**40,822**	**$5,253,903**	**1.28**

Table 10c: 2013 Electric Residential Program Budgets & Goals

2013	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Residential Program					
ENERGY STAR New Homes	2,629	$548,054	97	1,615,423	1.34
ENERGY STAR Retailer Incentive	0	$0	0	0	
Evaporative Cooling Rebates	4,630	$2,515,410	6,550	4,086,155	9.62
Heating System Rebates					
High Efficiency Air Conditioning	2,010	$2,415,130	2,871	2,372,400	1.33
Home Lighting & Recycling	535,000	$5,549,253	10,975	87,186,502	3.35
Home Performance with ENERGY STAR	300	$328,344	442	451,624	3.90
Insulation Rebate	3,120	$99,505	540	428,993	3.73
Refrigerator Recycling	2,000	$530,121	144	1,061,042	1.04
School Education Kits	30,000	$1,538,732	422	4,528,665	1.24
Water Heater Rebate	200	$100,100	59	517,787	1.42
Residential Program Energy Efficiency Total	**579,889**	**$13,624,650**	**22,100**	**102,248,592**	**4.65**
Load Management Program - Residential Saver's Switch	**19,500**	**$14,075,362**	**20,865**	**697,183**	**3.88**
Residential Program Total	**599,389**	**$27,700,011**	**42,965**	**102,945,775**	**4.28**

Table 10d: 2013 Gas Residential Program Budgets & Goals

2013	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Residential Program						
ENERGY STAR New Homes	2,629	$2,638,304	73,357	27,805	$1,861,196	1.30
ENERGY STAR Retailer Incentive						
Evaporative Cooling Rebates						
Heating System Rebates	6,500	$945,667	53,514	56,589	$1,704,355	1.49
High Efficiency Air Conditioning						
Home Lighting & Recycling						
Home Performance with ENERGY STAR	300	$326,542	11,672	35,744	$275,005	1.32
Insulation Rebate	8,000	$1,437,066	81,533	56,736	$2,251,244	1.29
Refrigerator Recycling						
School Education Kits						
Water Heater Rebate	2,970	$342,428	12,088	35,300	$94,643	1.08
Residential Program Energy Efficiency Total	**20,399**	**$5,690,007**	**232,164**	**40,802**	**$6,186,443**	**1.32**
Load Management Program - Residential Saver's Switch						
Residential Program Total	**20,399**	**$5,690,007**	**232,164**	**40,802**	**$6,186,443**	**1.32**

Goals and Participants

Electric goals were established first at the portfolio level by the Commission in Docket No. 10A-554EG.[13] The Company's DSM management team reviewed these goals and completed an initial allocation to the Business, Residential, and Low-Income Programs. This allocation was accomplished through a review of historical data, discussions from the DSM Roundtable meetings, and meetings with local and national energy industry experts.

Once the overall portfolio goal was allocated to the individual programs, the program goals were allocated to each product. This allocation process was based primarily on a review of product

[13] Note that there were no natural gas DSM goals established by the Commission, Rule, or Statute, but rather that the gas DSM rules require utilities to propose a savings target.

performance for the past three and half years and longer-term experience with similar products in Minnesota. Each product team then reviewed the information and informed the program manager on whether the goals set forth are achievable.

Budgets

For 2012 and 2013, DSM budgets were developed using a well-defined process. Relative to the goals setting process, budgets were first allocated across customer segments, specifically to Business, Residential, Low-Income, and Indirect. Under each program, the products rebate budgets were then established according to the desired number of product participants and estimated average project size. Next, budget components, such as advertising and promotion, were developed as part of the product planning process. Then, product delivery budgets, including Company labor and external resources, were calculated. Some products, such as New Construction, issue competitive bids to secure consultant resources. Finally, the budgets are totaled and reviewed for reasonableness given the historical and projected performance of each product. The resulting overall goals and budgets from this planning process are shown in the executive summary section of this Plan.

The Residential energy efficiency budgets overall in 2012 and 2013 are increasing based on increases to product goals.

C. Market Analysis

With the increase in awareness of energy issues and saving energy, there continues to be great energy efficiency opportunities for residential customers. There is also an excellent opportunity to impact both the short-term and the long-term in how new homes are constructed through our ENERGY STAR Homes Product. Related to this issue is the quality of existing homes from an energy efficiency perspective.

The retailer and customer market will continue to expand for compact fluorescent light bulbs (CFLs) in the next several years until the new federal energy standards take effect beginning 2012. There is a great opportunity to rapidly build customer knowledge and use of CFLs through marketing the benefits of the bulbs and offering them at reduced prices through select retailers.

Public Service believes evaporative cooling is an excellent low cost source for cooling in the Colorado climate. While supporting this technology, the Company also realizes that customers are looking for central air conditioning options. To address this demand, the Company offers products focused on quality installation of new units and tune-ups for existing units.

The Company will continue to investigate technologies that were assessed but not included in this filing, mostly due to cost-effectiveness concerns. These are ideas that are regularly screened, developed and evaluated in a routine process, including the following ideas for improving home efficiency:

- Condensing storage tank water heaters
- Radiant cove and radiant floor heating
- Variable speed fan motor retrofits for furnaces
- Solar tube lighting
- LED lighting

- Airtight CFL down lights
- Residential condensing boilers
- Solar water heating, electric & gas
- Smart power strip for TV's, and electronics
- Improved windows

The marketing, technical and development staffs are continually looking and adding new ideas to the database and discarding some that are not viable in the relevant time period.

D. Marketing/Advertising/Promotion

Trade allies, end-use equipment vendors, energy services companies, and Public Service's call center representatives primarily drive conservation and demand response achievements in the Residential Program. The Company utilizes newsletters, customer events, direct mail, email communications, and awareness advertising to reach customers. The challenge with customers is that energy efficiency doesn't tend to be on the top of their minds. Customers tend to focus on purchase price rather then lifetime costs and are unlikely to replace equipment prior to failure. Customers may also not be aware of energy efficient options available when the need arises to make purchase decisions. Yet, opportunities are growing in marketing to customers because energy costs and climate change have increased this awareness and affinity for energy-saving actions. To support marketing efforts, Public Service employs an integrated approach to marketing communications, where the tactics are designed to work in concert with each other and reinforce key messages over time.

Strategy

Public Service follows the "AIDA" (awareness, interest, desire, action) process for encouraging customers to use the rebate products. The following are the steps in this process:

1. Create awareness of electric and/or gas prices with respect to their monthly income and living expenses and potential savings from energy efficiency offerings.
2. Create interest by offering more information about product offerings as details become available.
3. Create desire by showing how customers can save in the short-term with rebates and in the long-term in the monthly operating costs for their appliances or equipment.
4. Move the customer toward action by providing a wide range of product offerings that may address one or more of their needs.

Key Messages and Target Audience

When communicating with customers, Public Service uses several overarching key messages including:

Energy efficiency reduces monthly utility bills due to lower operating costs.

Public Service helps lower energy bills by giving rebates and incentives for installing highly efficient equipment.

Energy efficiency helps reduce the customer's impact on the environment.

Communications vehicles:

- Product collateral including brochures, applications, and participating vendor lists.
- Newsletters that promote energy efficiency products and efficiency education.

- Xcel Energy website and email marketing.
- Direct mail campaigns for specific products.
- Events including product and technical training for contractors and customer education.
- Speaking opportunities at local trade association events.
- Media relations including free placement in appropriate media, focusing primarily on customer stories and product information and changes.
- Advertising in newspapers, radio, periodicals and the internet.

E. Program-Level Policies

There are several general policies that are followed in Public Service's Residential Program. Individual products may follow different policies as noted in the product descriptions. The overall program-level policies include:

- Proof of installation: All products require documentation of installation through either proof of purchase (i.e. invoices) or a site verification.
- Installation date: Rebates are provided for equipment installed within a 12-month period.

F. Stakeholder Involvement

Throughout the product development process, Public Service had discussions with key external parties. The discussions were done in group meetings, one-on-one meetings, phone calls, and brainstorming sessions. The Company talked with several local members to shape the new products and refined existing products. This includes: City/County of Boulder, City of Denver, Governor's Energy Office, Center for Resource Conservation, Colorado Department of Public Health and Environment, Lightly Treading, Energy Efficiency Business Coalition, Denver Water, and Resource Action Programs.

In addition to local contacts, Xcel Energy also worked with national organizations in developing the products. This includes: American Council for an Energy Efficient Economy, Consortium for Energy Efficiency, Department of Energy/ENERGY STAR, E Source, Southwest Energy Efficiency Project, and Wisconsin Energy Conservation Corporation. Several of these local and national organizations will either be involved in one or more products or they will be utilized to provide feedback on the new product to understand what areas could be improved in the future.

G. Evaluation, Measurement & Verification

The specific product measurement and verification plans are included in the E,M&V section of the Indirect Products and Services in this Plan.

Products that will undergo comprehensive evaluations in 2011 are noted in the E,M&V section of the Indirect Products and Services, as well as in the respective product description.

➢ ENERGY STAR New Homes Product

A. Description

The ENERGY STAR® New Homes Product provides homebuilders with an incentive to exceed state and local building codes and common construction practices. The product continues to build on the work started in 2009, when Public Service launched the product. This product encourages homebuilders to consider a "whole-house" approach to energy conservation when building new single-family and multi-family homes. This approach combines energy saving construction methods with energy efficient appliances to achieve significantly higher energy savings and provide the customer with lower energy bills, fewer maintenance concerns, higher resale value, and a more comfortable, quiet home.

The Environmental Protection Agency (EPA) recently began implementing significant changes to their national ENERGY STAR Homes product specification. The first specification change (v2.5) was implemented on April 1, 2011, with additional significant changes (v3) scheduled to be implemented January 1, 2012. The changes impact home builders considerably by increasing the costs to build homes that meet the new EPA specifications. While some increases in energy efficiency will be gained, many of the changes will have little or no impact on energy savings and as a result, Public Service of Colorado will no longer require homes to be ENERGY STAR qualified in order to participate in our product.

Our analysis indicates if the v3 specification was adopted in its entirety, our product would no longer be cost-effective due to the increased costs to our builders and the minimal energy savings realized. The company anticipates the changes to v3 will likely result in a substantial decrease in the number of homes that seek to obtain the ENERGY STAR qualification.

Although we are removing the ENERGY STAR qualification requirement for this product, our intent is to continue to brand the product as ENERGY STAR. We have approached the EPA and requested their written approval in this regard. The EPA has indicated approval is likely, but they are unable to provide a written policy (approval) at the time this product is being filed. If the EPA does not provide their approval, this product will no longer be branded as ENERGY STAR and the product name and branding will be modified accordingly. If approval is granted as expected, the company will continue to actively promote the ENERGY STAR brand and encourage builders to construct their homes to the ENERGY STAR standard. The remainder of this product write-up assumes that EPA approval to brand this product as ENERGY STAR is granted.

The product should be perceived as a vehicle that gets the builders most of the way to ENERGY STAR-qualified. However, any additional costs incurred by the builder or rater to meet the ENERGY STAR v3 specification, such as completing the new inspection checklists, will be the responsibility of the builder and/or rater.

In order to qualify for our product, participants will be required to build homes that exceed state and local building codes. Our baseline for this product is likely to be 2009 IECC; however, this is somewhat dependent on its adoption throughout the state in the coming months. Just as in previous product years, builders will receive rebates based on the final HERS index achieved for their home

and energy raters will continue to receive compensation for each qualified home enrolled and that completes the product requirements. Additional rebate dollars are available to the builder if qualifying energy efficient electric appliances and lighting are installed at the time the home is rated.

The estimated code compliant home in the Denver Metro area climate zone, with the exception of Boulder, is expected to fall under the 2009 IECC and yield a HERS Index of approximately 85. Homes participating in the product must reach the minimum HERS Index of 75 to receive a rebate (lower is better, more efficient); this is the same minimum threshold level required for the 2011 product.

For the City of Boulder and most Boulder County residents, the product qualifications criteria is a HERS Index of 65 or below for a home up to 3,000 square feet. Due to differing building codes throughout the state, Public Service has built-in flexible options for cities or counties that have more stringent codes. Builders may still be able to participate in those areas, but the required HERS Index in order to receive a rebate will be set below the existing code requirements for that area.

The builder may mix and match efficient technologies or building techniques to obtain a HERS Index that meets the product requirements and qualifies for the Xcel Energy rebate. For example, a builder could install a high efficiency furnace of 96% AFUE combined with less efficient windows, but still meet the threshold provisions . The builder has the flexibility to install any combination of technologies to obtain the desired HERS Index target. Additional prescriptive rebate dollars are available to the builder when qualifying electric appliances and lighting are installed. The builder may install an ENERGY STAR clothes washer, dishwasher, refrigerator or 20 ENERGY STAR-rated fixtures or bulbs. Rebates will be earned based on each qualifying appliances installed. In past years, builders were required to install all four appliances in order to receive the electric rebate. For this product, builders can install one or any combination of the four qualifying appliances and receive a rebate.

This product applies to builders of residential single-family, multi-family (duplex, triplex, fourplex) and town homes that receive electric and/or gas service from Public Service. Structures that have common conditioned space such as hallways and elevator shafts are not eligible for the product. The Company uses a third-party product implementer to enroll builders and maintain a quality pool of HERS rating companies. HERS companies have the flexibility to participate in this product by agreeing to a standard Scope of Work managed by the company's product implementer. The HERS raters in the state of Colorado have established strong relations with the builder community they serve; it is the intent of this product to build on those relationships and support the raters in their efforts. The product implementer, working with the HERS raters, will serve as the conduit for the builders to increase product awareness and participation. The product implementer will be available to assist with builder training when needed and will be responsible for obtaining the rating information from the rater and reporting it to the company.

The HERS rater will model and test the home to determine whether it meets the product requirements and to establish a final HERS Index. The third-party Product implementer will continue to recruit HERS rating companies throughout the year as well as builders who do not have a rater. All participating HERS rating companies are under contract with the implementer and are required to go through training on the product and data collection requirements. This training will be conducted by the Product implementer.

B. Goals, Participants & Budgets

Goals and Participants

The product goals were determined based on performance in 2009, 2010, and early 2011. The current new home construction market in Colorado continues to improve slowly, with only modest gains being realized over the past two years; this trend is expected to continue for 2012 and 2013. Construction lending remains tight and challenging for builders to obtain and potential new homeowners are finding it difficult to meet the lending requirements in order to qualify for loans. Market penetration for ENERGY STAR new homes in Colorado continues to increase. The GEO market penetration report suggests a 47% level for 2010, which is up significantly from 2009 at 32%. However, with the implementation of the EPA's v3 in 2012, market penetration for ENERGY STAR- qualified homes is expected to drop significantly.

Budgets

The budget includes costs for product administration, rebates/incentives, materials, promotional events, measurement and verification and labor. Product administration costs include those for our third party product implementer and payments made to HERS raters for rating the home. The rebates paid to builders and the incentive paid to energy raters are the biggest two components of the total product budget.

C. Application Process

Homebuilders are likely to hear about the product through marketing done by Public Service, by our third party implementer's field representative or through a HERS rater. The implementer's field representative has the primary role of engaging builders and recruiting raters into the product. Many of the HERS raters participating in the product have strong, existing relationships with their builder clients and as a result, they will enroll the vast majority of builders in the product. To initiate the process, HERS raters will contact their builders or the builder will express interest in constructing a home better than code to a rater. The rater will explain the product and potential rebates available, review the home's blueprints and building schedule, and enter the home details into our third party implementer's tracking database. The rater will also work with the builder throughout the construction phase to construct the home to better than code standards.

When the home is completed, the HERS rater will perform an air tightness test on the house and then calculate the final HERS index and the energy savings on the house. Once the rater has submitted the test data and final HERS Index to our implementer, and they have been approved by Public Service, the builder will receive a rebate based on the final HERS Index achieved. The HERS Index is correlated to specific gas and electric savings based on the 2009 IECC code. There is no rebate application for this product because the HERS report is the data that will be used to determine the rebate for each individual house. The third party implementer will ensure that all the information entered into the database system is correctly tracked and submitted to Public Service.

D. Marketing Objectives, Goals, & Strategy

The goal of the ENERGY STAR New Homes Product is to motivate builders to construct homes that are more energy efficient than required by local building codes. The product is promoted to HERS raters, builders, builder's sales agents and consumers using targeted marketing tactics. The

third party implementer provides recruitment and training services for our HERS rating companies. The participating HERS rating companies conduct and report on the homes' efficiency level when construction is complete. The product is promoted to builders by the participating raters and the product implementer using individual sales and recruitment techniques. In the past, the product has also been promoted through trade journals and other print media, targeted to homebuilders, developers, sales agents (including realtors) and consumers.

Public Service will continue to work with the Colorado Governor's Energy Office, cities and environmental organizations to build awareness throughout the customer and builder markets. Public Service may advertise in local trade magazines and steer builders to local training events. This comprehensive marketing effort is intended to communicate the benefits of the product, ENERGY STAR and motivate builders to differentiate themselves by building homes better than code and, if possible, to be ENERGY STAR-qualified.

E. Product-Specific Policies

Homebuilders will be encouraged to register as an ENERGY STAR partner and must be licensed, and bonded. Participating HERS raters must be Residential Energy Services Network (RESNET) authorized and use modeling software approved by RESNET. There are two paths to qualify for the performance rebate. Both paths require independent verification by a qualified HERS rater: HERS Performance Method and the Builder Option Package (BOP).

A HERS rating is where approved software, such as REMRate, is used to model the home's energy use to verify that it meets a target HERS index. In order to receive a rebate from Xcel Energy, homes need to meet a minimum HERS Index of 75 in the mountain communities and Denver area. The minimum HERS Index requirements for Boulder County homes is lower yet and can be seen in Section G. Homes do not need to be ENERGY STAR-qualified to receive rebates. Each rebated home must reach a minimum HERS Index in order to qualify for any incentives, which can be seen in Section G. Public Service will encourage each house to be modeled and tested using the HERS performance method. Regardless of rating method, each house will need to have a Thermal Enclosure Checklist (TEC) completed to participate in the product and receive a rebate.

The BOP is a method to achieve ENERGY STAR certification where builders construct the home using a prescribed set of construction specifications that meet product requirements. A final HERS index is not determined by the rater for homes using the BOP method. The EPA has approved BOP specifications at the county and regional levels; however, builders enrolled in PSCo's ENERGY STAR New Home product must also install a 92% furnace and achieve at least a 4.5 air change per hour at 50 Pascal's (ACH50) in order to receive the BOP rebate.

Public Service will accept homes that use the HERS method or an approved BOP to achieve the product requirements or the "sampling" method as performed by a RESNET certified HERS rater. Sampling allows an accredited HERS rater to qualify a group of new homes to meet requirements based on pre-analysis of building plans and subsequent random testing and inspections of a sample set of the homes as-built. For those builders who have demonstrated an ability to consistently meet the requirements, sampling helps to minimize production interruptions and verification costs, while ensuring that homes meet or exceed the guidelines for qualifying homes. Sampling can be applied

when either the performance verification method (HERS Index score) or prescriptive verification method (Builder Option Package) is used.

A few homes enrolled in the 2009 and 2010 product included the use of Photovoltaic (PV) systems. The product does not include the impacts of a PV or other renewable generation systems when calculating the HERS Index for a home. Rebates for PV systems are paid through the Solar Rewards product rather than demand-side management (DSM) products. Accordingly, energy savings credit for PV systems is not taken under the product or the DSM portfolio.

F. Stakeholder Involvement

Prior to launching the Colorado ENERGY STAR New Homes Product in 2009, Xcel Energy participated in the national ENERGY STAR Homes Partner meeting and assisted in developing the best practices model along with other product sponsors and the Environmental Protection Agency; lessons learned from participants factored in the development of the Public Service product. Xcel Energy also met with several utilities in Texas and the southwest to review their product structures and guide the Colorado product design. In addition, Xcel Energy serves on the new home construction committee for the Consortium for Energy Efficiency, which meets regularly and works closely with the EPA and ENERGY STAR, and attends the ENERGY STAR Homes Partner meetings and is represented at RESNET conferences by its program implementer.

Public Service continues to work with the Colorado GEO as well as other Colorado entities, such as the City of Fort Collins Utilities and City of Denver, to make the ENERGY STAR New Homes product successful by offering a consistent message and process.

G. Rebate Levels

Builders may participate in either the gas performance or electric prescriptive, or both product options. The product's gas option includes rebates to the builder based on the level of HERS Index achieved and the rating method they choose. The builder will receive a rebate of $250 for meeting the minimum qualifying HERS Index of 75 in non- Boulder County areas. For example, a new home in the Denver Metro area with a HERS Index of 70 and building under the Performance method would receive a total rebate of $500, whereas the same home built using the Builder Option Package (BOP) Rating method would be given the minimum rebate of $250. The reduced rebates for the Sampling option reflect both the construction efficiencies obtained by the builder, and the builders reduced investment for cost of rating. Additionally, there are inherent problems for the builder and raters when using sampling and we are not encouraging either to choose this path.

Builder Rebate Levels (not applicable to homes built in City of Boulder)

HERS Index for Rebate Eligibility	Performance Rating Rebate	BOP Rating Rebate**	Sampling Rating Rebate
75 – 71	$250	$250	$83
70 – 66	$500	$250	$167
65 – 61	$850	$250	$283
60 or below	$1,300	$250	$433

* *Builders participating in PSCo's ENERGY STAR New Home product must also install a 92% furnace and achieve at least a 4.5 air change per hour at 50 Pascal's (ACH50) in order to receive the BOP rebate.

Public Service will offer a separate rebate structure for homes within the City of Boulder and other localities with a more stringent code. Within the City of Boulder, the ENERGY STAR New Homes product will offer the following rebates based on the HERS Index achieved and the size of the home in square feet:

City of Boulder Rebate Structure for ENERGY STAR New Homes

HERS Index for Rebate Eligibility	Up to 3,000 sq ft	3,001 - 5,000 sq ft	5,001 sq ft and Over
65 – 61	$450	N/A	N/A
60 or below	$600	N/A	N/A

For example, a 3,000 square foot home built in the City and County of Boulder that achieves a HERS Index of 65 would receive a total rebate of $450 (for meeting the minimum Rebate Eligibility threshold). The BOP and Sampling Rating options are not offered in the Boulder area at this time. Rebates will not be offered for homes greater than 3,000 SF in the City of Boulder and greater than 1,000 SF in unincorporated Boulder County due to the stricter standards already established for these homes and the higher incremental costs needed to achieve savings below these criterion.

Additional product requirements (refers to both Tables above) are: 1) The final HERS Index must be less than the maximum allowed by code to qualify for a rebate. 2) Rebate levels will be adjusted as appropriate to account for codes requiring lower than standard HERS Indexes. 3) No rebates will be given for homes with a baseline HERS Index requirement of 60 or lower.

For the ENERGY STAR New Homes product electric option, the builder will receive a rebate for installing any of the four qualifying appliances listed below. These include; ENERGY STAR clothes washer, dishwasher, refrigerator and 20 ENERGY STAR fixtures or bulbs. This rebate is available to all Public Service company electric residential new home construction or large remodeling projects (that meet the ENREGY STAR new construction definition). For this product, builders can install one or any combination of the four qualifying appliances and receive a rebate.

Appliance Rebate Structure for ENERGY STAR New Homes

Appliance	Rebate
ENERGY STAR Dishwasher	$40
ENERGY STAR Clothes Washer	$10
ENERGY STAR Refrigerator	$10
20 ENERGY STAR Fixtures or bulbs	$40

Rebates will only be paid for the HERS rating for homes and/or the electric option. Prescriptive rebates for other equipment such as air conditioners, furnaces, insulation, and hot water heaters are not paid for in these homes since the impacts from these appliances are already included in the HERS analysis and final HERS Index.

The HERS energy rater will also receive a payment for homes enrolled into the product and tested using the HERS Performance rating system or an approved BOP or Sampling Path. Raters are eligible to receive two payments per home: 1) for successfully enrolling a qualified home in the product and 2) when the home is completed following the company's specified scope of work. Total payment to the rater for enrolling and completing the scope of work (for the path chosen) will not exceed the maximum amounts listed below. Payments will be based on the following schedule:

HERS Energy Rater Enrollment and Completion Payment Structure

HERS Performance Path	
Enrollment	$ 150.00
Completion	$ 250.00
	$ 400.00 Maximum
BOP Path	
Enrollment	$ 75.00
Completion	$ 125.00
	$ 200.00 Maximum
Sampling Path	
Enrollment	$ 50.00
Completion	$ 85.00
	$ 135.00 Maximum

➢ Evaporative Cooling Rebate Product

A. Description

The Evaporative Cooling Rebate Product provides a cash rebate to Public Service's electric customers who purchase high efficiency evaporative cooling equipment for residential use in Colorado. There are three rebate tiers available for the evaporative cooing product. Two of the tiers are for basic ducted systems and one for whole house ducted systems.

This product dedicates resources toward increasing energy efficiency in residential homes by encouraging consumers & builders to purchase evaporative coolers rather than central air conditioning. Through this product, participating Public Service customers benefit by reducing the cost of buying energy-efficient units in addition to experiencing energy savings throughout the lifetime of the equipment. This product not only motivates customers to make energy-wise purchases, but also educates customers on their environmental impact.

Qualifying equipment must be new and be a permanently installed direct, indirect or two-stage evaporative cooling unit. Portable coolers or systems with vapor compression backup are not eligible, nor is used or reconditioned equipment. Customers need not be replacing an existing evaporative cooling or air conditioning unit to qualify.

The purpose of the Evaporative Cooling Rebate Product is to transform the market over time from central air conditioners to evaporative cooling. For homes in dry climates, such as Colorado, evaporative cooling provides an experience like an air conditioner, but with significantly less energy use.

B. Goals, Participants & Budgets

Goals and Participants

The goal is based on past activity, current market conditions, and projected sales of evaporative coolers. Proposed savings were estimated on a per unit basis using the projected number of participants. However, participation in this product is weather sensitive. Cooler-than-normal summers result in lower participation as customers may choose to delay purchasing a unit if the weather is mild.

Budgets

The budget was developed using historical Evaporative Cooling Rebate participation. The budget is based on projected participation and the funds needed to promote and administer the product. These promotional efforts will take place in the summer months when the cooling season is in full swing.

C. Application Process

Public Service will make customers aware of the product through a variety of sources including bill inserts, direct mail pieces, the Xcel Energy website, HVAC contractors, builders, retailers and HERS raters. To participate, eligible customers must submit a completed application with a copy of their invoice or receipt. At this time, customers may self-install the units, provided that they supply the paid sales invoice along with the rebate application form. When a customer submits the rebate form with an invoice, it is reviewed for accuracy and qualifications prior to mailing a rebate check. Invoices or receipts must detail purchased equipment. If first time installation or whole house the customer must provide all receipts for additional components purchased or have these items detailed on the invoice. If the documentation does not meet the first time installation or whole house requirements the application with be processed as a replacement.

D. Marketing Objectives, Goals, & Strategy

The main objective of the Evaporative Cooling Rebate Product is to promote the use of evaporative coolers in place of air conditioning. The product will be promoted through the following strategic marketing efforts:

- Local newspaper advertising – mid-summer promotions are generally most successful;
- Internet ads that will track number of views "clicks";
- Monthly customer email updates;
- Bill inserts in the spring and mid-summer;
- Contractor packets to all contractors in the Colorado area,
- Builder kits; and
- Contractor education.

Public Service has partnered with over 500 dealers and over 150 retailers in the state of Colorado who receive our product literature and help to promote the product. Contractors & builders in Colorado are also an essential part of customer awareness and will receive information on product changes regularly.

In addition, Public Service utilizes a channel manger to assist with the communication of product details to the dealer and distributor channels. Other activities of the channel manager may include: training sessions on product specifics, product related mailings, and overall relationship development and maintenance.

E. Product-Specific Policies

Customers must purchase qualifying units in order to be eligible for a rebate. Units are qualified for the product based on the manufacturer's specifications. Equipment is added to the list of qualifying units as Public Service is notified of their release.

F. Stakeholder Involvement

When designing the Tier 3 portion of this product, Public Service worked with Nexant to ensure that the equipment is energy efficient, the criteria for installation and ductwork requirements, and

the best cooling option for Colorado customers. Tier 3 whole house rebates were developed out of the 2009-2010 DSM Plan Settlement agreement.

In order to determine qualifying equipment, Public Service worked with evaporative cooling manufacturers to verify current and new equipment efficiencies. The following manufacturers were contacted:

- Champion Manufacturers
- Coolerado Corporation
- Essick Air Products
- Jenrus Corporation
- Phoenix Manufacturer Incorporated
- Seeley International
- Speakman Company
- Symphony Comfort Systems
- Tradewinds

G. Rebate Levels

Three rebate levels are available for the Evaporative Cooling product. For rebate Tier 1 and Tier 2, the program offers a replacement rebate and a first time installation rebate. Tier 3 customers can earn a rebate for a newly installed whole house ducted evaporative cooling system. Coolers must be permanently installed, direct, indirect, or two-stage evaporative cooling units for customer equipment rebates.

Tier 1: Qualifying evaporative cooling units have a minimum Industry Standard Rated (ISR) airflow of 2,500 CFM. The first time installation rebate amount is the lesser of $250 or the purchase price of the unit and replacement rebate is $100. Taxes and ancillary items such as hoses are not covered by the rebate. Retailers and or contractors will receive a $50 incentive for every approved rebate application received.

Tier 2: Qualifying evaporative cooling units have a minimum Media Saturation Effectiveness of 85% and above. The units must be manufactured with a remote thermostat and a periodic purge water control or have these two features included on the invoice. The first time installation rebate amount is the lesser of $600 or the purchase price of the unit and replacement rebate is $500. Contractors or retailers will receive a $75 incentive for every approved rebate application received.

Tier 3: To qualify for the whole house rebate, the whole house cooler must be indirect/directly cooling and fully ducted in the home with a minimum of four down ducts installed. The rebate amount is $1,000 to the customer. Builders and/or contractors will receive a $100 incentive for every approved rebate application received.
Rebate applications must be submitted by July 31 of the following year after installation to qualify for a rebate.

➢ Heating System Rebate Product

A. Description

The Heating System Rebate Product provides an incentive in the form of a cash rebate to Public Service's natural gas customers who purchase high-efficiency heating equipment for residential use.

This product dedicates resources toward increasing energy efficiency in residential homes by encouraging consumers to purchase high efficiency furnaces and boilers. Public Service customers benefit by reducing the cost of buying energy efficient units, in addition to experiencing energy savings throughout the lifetime of the equipment. In making a purchase decision, consumers can check with Public Service or a participating Heating, Ventilating and Air Conditioning (HVAC) contractor to ensure all minimum qualifications exist with the chosen appliance to obtain a rebate. Public Service allows customers to choose their own independent residential heating system contractors/installers and will accept self-installations.

The product is applicable only for the purchase of qualifying new furnaces and boilers installed in new or replacement applications. The two-tier rebate schedule provides for a minimum efficiency of 92% Annual Fuel Utilization Efficiency (AFUE) for furnaces, in line with ENERGY STAR. A 94% AFUE or higher efficiency offers a higher rebate.

Public Service will use an 85% AFUE minimum for boilers, which is consistent with the ENERGY STAR recommended minimum for boilers.

B. Goals, Participants & Budgets

Goals and Participants
Goals were developed based on the Colorado 2010 participant data and knowledge of similar products in Xcel Energy's other jurisdictions. Total product participants will match the 2011 goal based on 2010 results.

Budgets
Budgets were developed based on the costs per participant from the 2010 Colorado product results. The budget also accounts for costs needed to engage the HVAC contractor base in order to serve the customers in the territory. Continuing to build the contractor community is essential to its success. The budget includes promotional costs for newsletters and informational letters to the contractor community to build their awareness so they can assist customers with purchasing energy efficient units and submitting the rebate application to Public Service once installation is complete.

The 2012-2013 budget contains contingency funding to pay incentives to further motivate the HVAC contractors. In past experience throughout Xcel Energy areas, contractor incentives have helped to increase customer participation in the slower months where heating systems sales are slow. The incentive would be a dollar amount for each rebate application submitted.

C. Application Process

The customer will learn about the Heating System Rebate Product primarily through bill inserts, advertising, and the HVAC contractor community. The typical sales cycle begins with a customer hiring an HVAC contractor, learning about energy efficient models, and purchasing and installing the unit. Following installation, the customer or contractor submits a completed Public Service rebate application and equipment invoice. Invoices must reflect the same information provided on the application form, specifically the model number, serial number, installation address, and purchase date. Other information gathered on the application form includes the customer's Public Service account number, mailing address if different from installation address, customer signature, and contractor signature (if installed by a contractor), and the unit's efficiency level.

Equipment eligibility is determined by using the Air Conditioning and Refrigeration Institute (AHRI) directory. Xcel Energy personnel review each application and verify that all the required data has been provided as well as the unit's energy efficiency level. Rebates are mailed within four to six weeks, but may take longer during the busy heating season. A printed copy of the AHRI certificate, dated within 2 weeks of the installation is recommended.

D. Marketing Objectives, Goals, & Strategy

The product's objectives are to increase demand for high efficiency heating equipment among Public Service customers, and through consumer demand assist the overall effort to increase the availability of high-efficiency heating units in the marketplace. The product's goal is to help Public Service customers save energy with their heating needs and understand the immediate and long-term value of purchasing and installing high efficiency equipment.

Public Service uses the following marketing communications strategies to make customers aware of the product:

- Print and online banner advertising. (radio on contingency basis). Advertising is an effective way to reach a broad audience. Banner advertising will be strategically placed on local popular news and weather sites, in addition to the local larger print newspaper sites. Print advertising media plans will include the larger print papers serving the metropolitan areas, and print papers in smaller cities and other parts of the state.
- Public Service bill inserts. These are timed according to appropriate seasons for the equipment. Typically, heating season promotion begins as early as July to coincide with the busy summer trade season when heating and cooling equipment is being replaced or installed simultaneously in customer homes. Bill inserts for high efficiency heating equipment have proven to be effective in the spring, when winter has ended and customers have had recent experience with high heating bills.
- Xcel Energy website. The website contains heating-related pages targeted to both customers and energy partners—installers, contractors and distributors. The pages are updated according to equipment efficiency changes and available promotions. The rebate schedule is always available on these pages, along with links to related pages or to forms and collateral.
- Channel Manager. Public Service utilizes a channel manager to communicate product details to the contractor and distributor channels (i.e. trade community) and conduct training

sessions on product specifics. The Marketing team participates in appropriate tradeshows and presentations related to heating.

- Trade Community. The product's primary promotions channel is the trade community. Training, meetings, telephone calls, letters and newsletters with quarterly frequency keep the HVAC trade informed about the product and help to increase awareness among new contractors. Contractors are encouraged to register as Public Service product participants and obtain contractor ID numbers. This number is a unique identifier and helps with trade promotions internally.

E. Product-Specific Policies

Eligibility requirements for participation include having a residential natural gas account with Public Service. The product is applicable only for the purchase of qualifying new furnaces and boilers installed in new or replacement applications. Public Service also accepts self-installed units in addition to HVAC contractor installations, though it is rare.

F. Stakeholder Involvement

Public Service considers its stakeholders for the Heating System Rebate Product to be the HVAC contractors and distributors, the Governor's Energy Office (GEO), local municipalities within the service area, and environmental organizations. Stakeholders will be invited to share their product suggestions during the Company's quarterly DSM Roundtable meetings. In addition, Xcel Energy is a member of the Consortium for Energy Efficiency (CEE), and monitors its initiatives related to residential HVAC equipment.

G. Rebate Levels

The Heating System Rebate Product offers three different rebate levels, depending on the type and efficiency of the equipment purchased:

- Furnaces above 92% AFUE qualify for a rebate of $80;
- Furnaces above 94% AFUE qualify for a rebate of $120; and
- Boilers above 85% AFUE receive a rebate of $100.

The proposed incentive amounts offer strong encouragement to move to the highest efficiency furnace, offering a $34/Dth increase between a 92% AFUE and a 94% AFUE. The higher rebate is intended to move more customers to the highest efficiency choice.

➢ High Efficiency Air Conditioning Product

A. Description

The High Efficiency Air Conditioning (AC) Product comprehensively addresses energy efficiency opportunities related to central air conditioners and air source heat pumps. The Product is comprised of four measures, each meeting a different need in the cooling marketplace.

- **New Equipment Rebates: Plan A** – Central air conditioners and air source heat pumps that meet certain energy efficiency standards as outlined in Section G below, are eligible for a rebate. The goal is to encourage consumers to purchase units that meet or exceed the ENERGY STAR efficiency standard of 14.5 SEER. Equipment must be Air Conditioning and Refrigeration Institute (AHRI) performances certified at standard rating conditions and have a thermostatic expansion valve (TXV). The TXV improves the efficiency by matching the flow of liquid refrigerant to the cooling load of the home.
- **Quality Installation** – All new equipment rebates must also include a Quality Installation (QI). The QI process is based on standards developed by the Air Conditioning Contractors of America (ACCA) which dictate the steps a contractor must take to ensure a true quality installation. This QI measure, which starts with a load calculation to determine the proper size of the equipment to be installed, helps ensure that the total energy savings potential of newly installed AC equipment is realized.
- **Trade-In Rebates: Plan B** –This measure is intended to motivate homeowners to replace older, lower efficiency residential central air conditioning units that are still operable. These units may be working well now or may need some capital dollars for repair. Customers will be required to replace them with high efficiency units (14 SEER or higher) before the end of the unit's useful life. It is anticipated that some customers who are currently eligible to participate in the existing Plan A Equipment Rebates will now choose to participate in the Plan B Trade-In Rebate measure. In addition, this measure is expected to bring in new incremental participation that would not have been realized otherwise.
- **Ground Source Heat Pumps** - The Ground Source Heat Pump (GSHP) equipment measure serves a small market niche of our consumers who seek out the most highly efficient technology. To be eligible to participate in the product, residential electric customers must purchase and install a unit that is ENERGY STAR certified. The ENERGY STAR certified GSHP's performance criteria are a minimum of 3.3 COP and 14.1 EER. Rebates will be available for GSHP's that are installed as closed-loop systems and are used for both heating and cooling. The rebates are only available for electrically heated homes where natural gas is not in use. This measure will require a similar Quality Installation standard as required in the Plan. The rebate and participation levels for this measure can be seen in Section G.

B. Goals, Participants & Budgets

Goals and Participants

The energy savings goals for 2012-2013 are consistent with the targeted participants.

Participation levels for this product are based primarily on past product performance in the Colorado marketplace. Original participation assumptions developed for the product in year 2010

were not realized. This was primarily due to the complexity of the program and the need to educate the trade community on all of the required qualifications to participate. Quality installations require true market transformation. With the contractor incentive to perform quality installs, we have reason to believe there will be a significant increase in participation over the past years.

Approximately 90% of all participants are projected to qualify through the Trade-In measure. This is similar to what was seen in 2010. The HEAC product should generate significantly more participants than this due to the tired SEER levels, which are designed to move customers beyond the 14 SEER level.

Budgets

The 2012-2013 budgets were established primarily based on the costs per participant within the proposed goal. The desired participation level was determined largely on the performance of 2010 data obtained from current market conditions.

The high efficiency equipment rebate begins at the ENERGY STAR minimum of 14.5 SEER, for Plan A and 14 SEER for the Trade-In equipment rebate measure. Contractors are paid a quality installation incentive at all SEER levels, further encouraging their support of the product and a financial interest to continue quality installation practices. The budget also includes costs for verifying a percentage of the air conditioner installations in the field to ensure they meet ACCA quality installation standards and expected energy savings. Incentive levels for 2012-2013 remain unchanged from those used in the 2011 product year.

C. Application Process

The application process requires that the customer use a registered NATE-certified contractor. These contractors have agreed to the terms of the product and meet the requirements related to quality installation practices. A list of registered contractors can be found on the Xcel Energy website.

The customer must select a new central air conditioning system with an overall efficiency of 14.5 SEER or higher for the Plan A equipment rebate and 14.0 or higher for the Plan B Trade-In equipment rebate. All new equipment installed for this product *must* have a quality installation to receive an equipment rebate. The system must meet the following requirements to be eligible:

- The equipment, components and/or system must be listed in the Air Conditioning Heating and Refrigeration Institute's (AHRI) Unitary Directory. This directory is used to identify product classification, determine efficiency ratings and confirm matched systems. Ductless mini-splits are not included in the product.
- Multi-stage air conditioning units are eligible for rebates if an earlier matching furnace was installed and is part of the high efficiency air conditioning system per AHRI listings. The homeowner or contractor must supply the furnace model number and serial number on the application.
- For single-stage systems, the use of a furnace's variable speed fan to increase the SEER rating above the nominal rating will be allowed for determining rebate eligibility, providing that the customer purchased and installed the furnace and air conditioner within two years. The overall furnace and air conditioning rating must be found in the AHRI directory.

In order to verify that the equipment has been properly installed, the contractor must bring the system to a steady state and perform QI tests as specified in the Xcel Energy quality installation guidelines. There is no separate application process for the contractor quality installation rebate. Instead, there is a section within the customer application to indicate the quality installation process is being followed. Testing can only occur when the outside temp is 70 degrees or higher, or 55 degrees or higher if the FDSi diagnostic tool is used.

Public Service requires that a dated sales receipt/invoice with the following information accompany the rebate application:

- Purchase date
- Equipment manufacturer
- Condenser model and serial numbers
- Evaporator coil model and serial numbers
- Furnace model and serial numbers (if installed simultaneously with a central air system or multi-stage system).
- Size or Capacity
- Customer name and installation address

Additionally for the Trade-In Rebate measure, the following old (existing) equipment information must accompany the rebate application:

- Make, model and serial number of the condenser
- Unit SEER and/or EER rating as given by the manufacturer.

The equipment installation and testing for quality installation must be completed before the rebate application is submitted for processing by Public Service. All information on the receipt/invoice must match the information on the rebate application exactly. In addition, the application form will require the name and signature of the NATE-certified technician, and the NATE ID number indicating that the NATE-certified technician has reviewed the high efficiency air conditioning unit installation on the application. The signature and identification number will be reviewed during the rebate application approval process. An AHRI certificate, printed in the same year as the installation, must accompany the rebate and invoice for approval.

D. Marketing Objectives, Goals, & Strategy

The High Efficiency Air Conditioning Product seeks to increase demand for and availability of high efficiency cooling equipment and to increase awareness and penetration of the quality installation process within Public Service's service area. The ultimate goal is to affect energy savings and demand reduction for the customer. To support this goal, Public Service plans to implement the following marketing strategies to increase product awareness:

- Use of the HVAC contractor community as the primary marketing channel. The Company's Channel Manager is responsible for conducting trade partner training, meetings, telephone calls, letters and newsletters with regular frequency to keep the trade informed and engaged in the product. In addition, a qualified contractors list is available on the website and participating contractors are expected to assist in promoting the product. The company provides brochures for contractors to distribute to customers as well.
- Advertising will include utilizing print, radio and interactive online strategies to increase awareness. Print advertising media plans include the larger print papers serving the

metropolitan areas, and print papers in smaller cities and other parts of the state in which Public Service serves.

- Public Service bill inserts and newsletters will be used to create awareness with the entire customer base.
- Xcel Energy's website also includes information regarding the product and is updated as needed to more effectively reach customers. This includes information on proper AC sizing and airflow, product details and where to find qualified contractors. The site also hosts pages designed specifically for HVAC trade partners to obtain information about the product.
- Public Service may choose to motivate the HVAC industry to certify technicians in NATE service air conditioning by offering a promotion in which participating HVAC technicians receive a bonus check from Public Service for an amount up to $100 for every approved application submitted during a trade promotion period. Only those who meet trade participant qualifications (stated above) will receive the promotion. Other criteria may apply.

E. Product-Specific Policies

Customers must purchase qualifying units in order to be eligible for a rebate. High efficiency equipment rebates will not be paid without a quality installation from an approved contractor. Contractors must be NATE-certified, attend any required company trainings, follow all program guidelines, and be approved by Public Service. Contractors who don't comply with the product requirements and guidelines are not allowed to participate further in the product, during the calendar year.

In order to be eligible for the Plan B Trade-In equipment rebate, the retired (existing) AC equipment must have a SEER of 12 or lower to qualify. This will be determined by the contractor at the time of removal from the customer's premise. The retired equipment information will be included in the rebate application. If the SEER or EER cannot be determined by the contractor, the unit will not be eligible for the Plan B equipment rebate, but may be eligible for the Plan A equipment rebate. It is likely that a lower SEER eligibility limit or range, such as SEER 12-10, will be established beginning in 2012.

F. Stakeholder Involvement

The development of this product represents an ongoing cooperative effort between Public Service, Southwest Energy Efficiency Project and Energy Efficiency Business Coalition. In compliance with the 2009/10 Biennial DSM Plan Settlement and Stipulation Agreement, a committee was formed to explore the most effective way to offer a product to residential customers for improving air conditioner efficiency. The committee continues to meet periodically, as demonstrated by the addition of the Plan B Trade In measure to this product in June 2010.

G. Rebate Levels

Public Service will pay rebates for the purchase and quality installation of qualifying high efficiency air conditioning equipment. The following tables describe the customer rebate and contractor incentive levels available for installation of qualifying high efficiency equipment for Plan

A and Plan B equipment rebates are paid directly to the customer, while quality installation incentives are paid to the contractor. Plan A rebate levels were established to be consistent with the ENERGY STAR efficiency tiers. Plan B includes the same rebate levels as Plan A and adds an extra rebate for the trade in of the existing equipment that is assumed to be functioning on in need of minor repairs. Equipment must meet both the SEER and EER standards to receive a rebate for either Plan A or Plan B.

New Equipment and Trade In Equipment Rebate Levels with Quality Installation

Equipment Tier	SEER	EER	Customer Equipment Rebate*	Customer Early Retirement Rebate*	Total Customer Rebate*	Total Contractor QI Incentive
	13	below 12	$0	$0	**$0**	$100
	14	below 12	$0	$500	**$500**	$100
Tier 1	14.5	12	$250	$500	**$750**	$100
Tier 2	15	12.5	$350	$500	**$850**	$100
Tier 3	16	13	$500	$500	**$1,000**	$100

* Rebate is dependent on contractor participation/acceptance into the Public Service product and contractor following the Quality Installation guidelines

Homeowners may receive the equipment rebate directly or may provide written permission for the rebate to be paid directly to the contractor or to another designated alternate rebate recipient. Builders, as the original purchaser of equipment, are eligible to receive an equipment rebate; however, the rebate will only be issued once and so builders should negotiate with the homeowner as to who will receive the rebate. The quality installation rebate is paid to the contractor on submittal of completed application signed by customer.

Ground Source Heat Pump Rebate Levels and Participation

GSHP Application	Rebate/Ton	Average Tons	Participants	Total Rebates
Existing Homes	$300	3.4	5	$5,100
New Homes	$300	6.0	5	$9,000
Total			10	**$14,100**

Customers who receive a rebate through another Public Service rebate product (e.g., Home Performance with ENERGY STAR or ENERGY STAR New Homes) for the same equipment are not eligible to receive a rebate through this product. By accepting a rebate, the customer or contactor agrees to reasonably accommodate measurement and verification consultants.

➢ Home Lighting & Recycling Product

A. Description

The Home Lighting & Recycling Product provides resources for customers to purchase energy efficient light bulbs and dispose of them in an environmentally friendly manner. Compact fluorescent light bulbs (CFLs) are an economical and easy way for customers to save electricity. Customers may purchase CFLs at a discount through two methods: mail-order sales or local retailers. New this year, Public Service will offer discounts on LED (light-emitting diode) bulbs. For recycling, customers can recycle CFLs free of charge through Ace Hardware.

CFL Mail Order Sales

The Mail Order Sales channel offers a wide variety of CFLs (listed below), including hard-to-find bulbs, through a third-party vendor at competitive prices. The actual sale and fulfillment of the bulbs is handled through the lighting vendor that manages and owns the entire lighting inventory. Public Service promotes the bulbs through direct mail, newsletters, bill inserts and the Internet and offers an incentive for customers to buy in quantity. Customers can order bulbs via mail, phone, Internet and fax. The customer pays our vendor directly and the bulbs are delivered to the customer's home.

CFL Retail Discounts

Public Service also promotes CFLs by offering in-store retail discounts. In these promotions the bulb manufacturer, retailer, and Public Service combine funds to offer instant rebates enabling customers to purchase a CFL for approximately $0.99. Public Service partners with such retailers as Home Depot, Costco, Ace Hardware and King Soopers to promote the bulbs. Customers receive the discounted price at the register. There is no mail-in rebate form.

During the fall retail promotion, Public Service participates in the ENERGY STAR Change A Light, Start with ENERGY STAR campaign. This campaign was initiated by the Environmental Protection Agency (EPA) and encougages utility sponsors nationwide to engage in retail discount promotions during the fall. The campaign leverages a nationwide effort providing economies of scale in promotion costs and offers a consistent message across various sponsors. The bulbs are promoted through advertising, signage and public relation efforts.

LED Discounts

Solid state lighting has made substantial progress and rapid gains in past few years. The first residential 60-watt replacement LED bulb emerged on the market in 2010. In the past year, improvements have been made to increase the lumen output, soften the color of the bulb and provide omni-directional light output. LED light bulbs are now being produced by a few manufacturers and are available for purchase through major retailers. LED bulbs are now viable for residential use; however, they are still quite expensive. The retail price of the 60-watt equivalent LED bulb is approximately $40. The high cost is a barrier to the widespread adoption of the technology for household use. Nevertheless, LEDs continue to make headway in the market. Public Service believes that LEDs will form the backbone of household lighting at some point in the future. For 2012, Public Service plans add LED bulbs to the Home Lighting Product portfolio and

offer instant in-store rebates at major retailers. The rebate amount will be approximately $10 each but may vary depending on the type and manufacturer of the bulb. Public Service will negotiate the rebate with the manufacturers to obtain the best possible rate and will every attempt make the final cost of the bulbs under $30 each for the customer.

Recycling of CFLs

The CFL Recycling component provides an environmentally friendly method for customers to dispose of CFLs. Public Service created a partnership with Ace Hardware to serve as the retail arm for CFL recycling. Customers can bring spent CFLs to any Ace Hardware store and recycle them free of charge. The retailer stores the bulbs in a covered bin until it is full. Then they ship the bulbs to the recycler in the postage paid bin. Public Service covers the cost to ship and recycle the bulbs. Public Service was instrumental in developing this product with the Colorado Department of Public Health & Environment (CDPHE) and other Colorado utilities to implement the product statewide in 2008. Since the inception, CDPHE and one of the other utilities have discontinued their funding; however, Ace Hardware saw value in the product and continues to provide funding and offer the product in their stores statewide.

B. Goals, Participants & Budgets

Goals and Participants

All Public Service electric customers are eligible to participate in the Colorado Home Lighting Product. Mail order sales are currently offered in all of Xcel Energy's service areas. Although sales of CFLs have declined nationwide, Colorado, consumers continue to have a strong interest in saving energy by using CFLs.

The goal for this product was derived by looking at market potential and logistics. This included analyzing historical sales data, retail store chains and local promotional opportunities.

The Energy Independence and Security Act (EISA) of 2007 that regulates the production of incandescent A-line bulbs (standard light bulb) that are 40, 60, 75 and 100 watts begins in 2012. It requires manufacturers to increase the efficiency of these bulbs by 30% in phases over a three year period while maintaining current lumen levels. This transition period begins on January 1, 2012 and will be completed in 2014. Specialty and decorative lighting (flood, globes, chandelier, etc.) sources are not regulated and will continue to be sold.

The new standards are shown in the chart below.

Current Wattage	New Maximum Rated Wattage	Lumen Range	Minimum Life	Effective Regulation Change Date
100W	72W	1490-2600	1000 Hrs	1/1/2012
75 W	53 W	1050-1489	1000 Hrs	1/1/2013
60 W	43 W	750-1049	1000 Hrs	1/1/2014
40 W	29 W	310-749	1000 Hrs	1/1/2014

This legislation is expected to have the following effect on the market. Manufacturers are expected to increase the production of incandescent bulbs until the manufacturing deadline. Sales of incandescent bulbs are expected to continue well beyond the start of the phase-out period. Consumers are expected to increase purchases of incandescent bulbs and demonstrate hoarding behavior for two years after production has ceased. Manufacturers are already offering a halogen alternative to the traditional incandescent bulbs that is being called the "super incandescent". The "super incandescent" is roughly 30% more efficient than the traditional incandescent bulb

For 2012, since the 100-watt incandescent bulb will no longer be manufactured, Public Service will use the super incandescent as the baseline for bulbs with a lumen range of 1490-2600. Public Service sells a relatively small amount of these bulbs, roughly 9% in 2010, so the overall the total Home Lighting product goal and savings is not expected to change substantially.

For 2013, the 75-watt incandescent will be phased out. This will affect the Public Service product portfolio more dramatically, further reducing the energy savings and sales opportunities. Approximately 22% of the CFLs sold in 2010 were 75-watt equivalent CFLs.

Public Service has modified the technical assumptions to account for the changes in the legislation for 2012 and 2013.

Budgets

The Home Lighting & Recycling Product budget is based primarily on the number of product participants (bulbs sold). Public Service developed the budget by combining the CFL retail discounts, promotion implementation, advertising, labor and promotion costs. The average incentive cost is applied to the bulbs sold, and the implementation, promotion and labor costs are added.

C. Application Process

Customers do not need to apply to participate in the Home Lighting & Recycling Product. Public Service works with large retail chain stores in order to obtain maximum penetration of the product. Most large retailers are not willing to accept coupon or rebate forms because of the increased processing time and costs associated with them. However, they are supportive of discount products. Previously Ace Hardware was using instant rebate forms to allow us to capture data about the products customers were buying. In 2012 they will no longer use coupons. They see the rebate forms as a competitive disadvantage, since larger retailers are not required to use coupons and they increase the processing time of each transaction.

To reach as many customers as possible, Public Service works with retailers and manufacturers to provide a discounted price on bulbs through upstream incentives. The discount varies depending on the type of bulb and the manufacturer/retailer partner. CFL promotions are offered for limited times throughout the year at various retailers with strong promotions focused in the early spring and fall. They are promoted through various media. Customers need to purchase the advertised product during the promotion period at a participating retailer. The customers receive the discounted price at the cash register. Incentives are paid upstream and the discounts are passed on to the customer.

D. Marketing Objectives, Goals, & Strategy

The objective of the Home Lighting & Recycling Product is to motivate customers to purchase CFLs, persuade them to try using CFLs in different applications throughout their homes, and encourage them to recycle the bulb when it burns out. Public Service uses the mail order sales channel to help customers locate specialty and hard-to-find bulbs. This channel also offers the benefit of home delivery. Although the sales through this channel are minimal (less than 1% of overall projected achievement), Public Service believes that it is important to encourage customers to go beyond purchasing the typical twist CFLs and thus markets a variety of models and styles. The Company will market this channel through publications, trade shows and on the Xcel Energy website.

The retail discount channel will drive 99% of the CFL sales. It offers the lowest prices and reaches more customers than the mail order channel, offering more participation and savings potential. Public Service will implement a minimum of two retail promotions and use several different retailers per year to achieve the goal of selling over one million CFLs. The Company will also look for opportunities to do educational, local, and community-focused events. The peak sales period for CFLs is in the fall and winter, as such, promotions are focused during these peak time periods. Public Service will market this product through bill inserts and advertising.

Public Service uses a variety of retailers to ensure we obtain optimal pricing and help reduce free-ridership, including big box, mass merchandiser, hardware and grocery outlets.

As a result of the EISA deployment in 2012 and 2013, Public Service has increased the advertising budget to account for a potential decreases in interest in purchasing CFLs.

CFL Recycling is marketed locally through our retail partner, Ace Hardware. We will market the product in collaboration with the CFL promotion through bill inserts and the Xcel Energy website.

E. Product-Specific Policies

Public Service uses ENERGY STAR-verified CFLs in both the retail sales and mail order sales channels and promotes ENERGY STAR products. Public Service guarantees 100% satisfaction on all CFLs through the mail order sales channel.

For the retail discount sales channel, Public Service selects retailers within the Colorado service area and assumes that the customers purchasing the CFLs live with the given area. Although there are crossover sales with bordering utilities' territories, the Company assumes that the crossover coming in and out of the territories is equal.

Public Service currently uses Mercury Technologies as the third-party product implementation firm for CFL recycling. Mercury Technologies is known to be the best in industry because they separate the CFL components by hand to ensure that hazardous materials do not end up in the ground soil or water. Mercury Technologies also provides bins made of recycled material and recycles the bins that the bulbs are shipped in. In addition, they provide certificates of proper recycling.

F. Stakeholder Involvement

Xcel Energy collaborates with several organizations to monitor and incorporate best practices into lighting product design. These activities include: serving on the lighting committee for Consortium for Energy Efficiency, participating annually in the national ENERGY STAR Lighting meeting, and interfacing and working with E-Source, American Council for an Energy Efficient Economy (ACEE), EPA, Department of Energy and ENERGY STAR. Public Service also utilized results from the 2009 market research program evaluation performed by the Cadmus Group.

G. Rebate Levels

The upstream markdown incentives account for 30% to 70% of the incremental cost, depending on the bulb. The savings is ultimately passed on to the customer as an instant rebate for the Retail Discount channel.

For the Mail Order sales channel, there are no rebates. Public Service passes the wholesale price on to the customer and provides a free bulb to customers that spend $35 or more.

➢ Home Performance with ENERGY STAR Product

A. Description

The Home Performance with ENERGY STAR (Home Performance) Product is targeted at existing single-family homes that are in need of multiple energy efficiency improvements. By providing these customers with rebate incentives, Public Service is able to incorporate a whole house approach to energy efficiency. In order to participate in the product, all qualified Public Service customers must receive either natural gas and electric service, or electric only with electric heat.

The Home Performance Product was developed using principles from the nationally recognized ENERGY STAR "Home Performance with ENERGY STAR" Product. The concept of the product is to provide the customer with a one stop comprehensive approach to have an energy audit, audit generates a scope of work, the contractor who can also be the auditor reviews the recommended improvements, completes the work, and independent verification of the improvements after completion.

This product complements the Home Energy Audit Product by requiring an advanced in-home blower door audit as the first step in the process for product participation. After the customer completes the audit and meets the product eligibility requirements, the customer may sign up to participate in the Home Performance Product. Customers must achieve at least a 20% energy reduction in their home from a list of energy savings improvements that qualify for the product in order to earn rebates.

Trade contractors interested in performing installations within the product are required to hold current certifications in one of the following: BPI Building Analyst, BPI Envelope, BPI Heating, BPI Residential Building Envelope Whole House Air Leakage Control Installer or Crew Chief, and/or NATE certification with the exception of evaporative cooling and water heaters, which don't require a certified contractor. Trade contractors must also complete the Home Performance Contractor training. This training will take approximately five hours to complete in which the primary focus of the training is to provide contractors with information on the product components, how the process works, and the required diagnostic testing that Public Service requires as part of the efficient measure installations. Once contractors have completed this training, they will be included on the approved contractor list. This list will be included in the customer packets and on the Xcel Energy website. All participating contractors must complete the training and sign the contractor agreement before they may provide approved installs for participants in the product.

B. Goals, Participants & Budgets

<u>Goals and Participants</u>

The Home Performance Product goals were developed based on the Colorado 2010 product results and knowledge of similar products in Xcel Energy's other jurisdictions. Participants were determined using 2010 actual data and the anticipated participants in 2011. The product in 2009-11 has experienced significant challenges due to the poor economy, high costs to participate, and program complexity.

Budgets

The budgets for this product are based on the 2009-10 participant and implementer costs including post improvement verification inspections. The associated costs to promote the product through printed advertising and collateral have also been included.

C. Application Process

Customers interested in participating in the Home Performance product will begin by contacting Public Service and requesting their Home Energy Audit with blower door test. The auditor will provide information on the Home Performance Product as part of their in-home audit, tying specific product requirement information and recommendations into the audit. The customer may then sign up for the product the day of the audit or sign the product form and mail it in directly to Public Service for processing and product follow up.

Once a customer has submitted the sign up form to Public Service for processing and tracking, the customer has one year to complete the required and optional installs. The customer then completes the recommended improvements and works with their contractor to submit the rebate form. Participating contractors will be required to have their first five jobs inspected and verified by a third party. After the first five jobs have been inspected a random sample of 10% of the contractor's jobs will be inspected and verified.

The Home Performance Product information, product forms and approved contractor list is available at Xcel Energy's website as well as through the audit provider. Customers may also contact the customer call center to request product information.

D. Marketing Objectives, Goals, & Strategy

Public Service will implement a variety of marketing strategies to provide product information through the web site, advertising, and local "green" community events. We will also provide incentives to the auditors, in an effort to identify additional participants that are interested in the product, but may not be aware of this whole house option.

The Home Performance Product will be marketed through the Home Energy Audit Product promotions directly to customers, and approved Home Performance participating contractors. Public Service will monitor product participation on a monthly basis and implement additional marketing tactics if necessary to achieve the year-end goal.

In addition, Public Service will attempt to fully utilize the trade partners that have been trained and contracted to deliver this product to customers. This is viewed as the most important channel to

work with to build awareness and participation in the product. As a result, Public Service is offering incentives to participating installation contractors that is designed to increase the amount of work performed. These incentives are designed provide contractors additional motivation to promote the Home Performance Product.

E. Product-Specific Policies

Home Performance product requires that customers must have either a Standard Audit with blower door test, or an Infrared Audit to qualify for participation. The audit is required prior to starting the improvements. Public Service will provide the customer a list of contractors participating in the product; however, the Company does not guarantee the contractor's expertise or warrant any of the products or services, nor is one contractor promoted over another. Public Service shall have no liability for contractor work or negligence.

To complete the product and be eligible for the rebates, customers must agree to achieve a 20 percent energy reduction in their home. The customer must complete air sealing, attic insulation, wall insulation and CFLs as part of their improvements if they have not made these upgrades previously. The customer will receive rebates for improvements made within one year of the initial audit and verified by the auditor. The Company will not rebate for pre-existing efficient equipment.

F. Stakeholder Involvement

Public Service has met with the Cities of Boulder, Fort Collins, Greeley, and Colorado Springs, the Center for Resource Conservation, the Platte River Valley Authority, the GEO, EGIA and EEBC for product feedback. The Company will continue to meet with these and other stakeholders for feedback to improve the product over time.

G. Rebate Levels

Rebates are prescriptive and energy savings are based on the specific technology assumptions used in the cost-benefit modeling. Rebate levels are enhanced for most measures to encourage customers in whole-house improvements instead of individual upgrades.

➢ Insulation Rebate Product

A. Description

The Insulation Rebate Product offers Public Service residential natural gas and electric customers rebate incentives for installing insulation in their existing single-family home or one-to-four unit property. Homes must have a pre-project insulation level of R-20 or below.

Public Service will rebate the following types of qualifying insulation installations:

- Attic insulation and bypass sealing to an R-value of 38 or greater,
- Wall insulation to an R-value of 13, and/or
- Air sealing and weather-stripping.

Customers must use a licensed, bonded and insured insulation contractor to qualify for the rebate.

The Department of Energy reports that heating and cooling accounts for 50 to 70% of the energy used in the average home today. They also add that inadequate insulation and air leakage are the leading causes for energy waste in most homes. Recent estimates from the Environmental Protection Agency indicate that homeowners can typically save up to 25% of heating and cooling costs (or up to 10% of total energy costs) by air sealing their homes and adding insulation to attics, floors and over crawl spaces, and accessible basement rim joists.

B. Goals, Participants & Budgets

Budgets

Rebate amounts were originally set to match the Insulate Colorado program and provide a seamless way for either Public Service or the GEO to serve all qualified Colorado residents with very similar program procedures and benefits. Public Service will continue to offer this rebate level to customers because it has been proven effective with customers in previous years.

Budgets were based upon the 2011 Colorado product offering, as well as average insulation costs in the Colorado market.

Costs associated with processing are relatively low since we do not require customers to work with a specific insulation provider and the product is based on a set percentage of the total cost of the insulation install, not just materials. Typically, this product is promoted through Xcel Energy's website and newsletters, communications to local area insulation contractors, and community events and home shows focused on the environment and energy efficiency. For that reason, historically it has required a smaller budget for promotion and marketing purposes.

Goals

The Insulation Rebate Product goals were developed based on historical participation.

C. Application Process

Qualified customers must complete a rebate application, which is available on the Xcel Energy website or by contacting our customer call center or the customer's insulation contractor. Customers must provide Public Service with a copy of their dated invoice reflecting the installation along with the rebate application. Qualified installs will be processed and checks issued within six to eight weeks. Public Service will issue the rebate directly to the customer, but the rebate form may be submitted through the insulation contractor.

D. Marketing Objectives, Goals, & Strategy

The Insulation Rebate Product will be marketed through a variety of channels such as the Home Energy Audit Product, the Xcel Energy website, direct mailings to local area insulation contractors, and environmentally-focused community events and home shows. Since this rebate program is available to residential natural gas and electric customers from Public Service, we will support this marketing strategy with seasonal direct mail efforts and winter bill inserts to targeted customers. Historically, this strategy has worked well when implemented during the key heating months of December, January and February.

Additionally, the Company will incorporate communications activities to local insulation contractors so they can educate qualified customers on how they can benefit from this rebate. By collaborating on outreach to our customers, the local contractors may be able to drive more customers to commit to insulation installs.

Finally, we will initiate cross marketing efforts with other natural gas rebate programs offered by Public Service. An example of this could be a winter direct mail letter that outlines existing rebate and energy efficiency products available to natural gas customers of Public Service. This strategy has proved successful in the past with this program.

E. Product-Specific Policies

To qualify, all projects must have a pre-installation R-value of 20 or less. Qualified insulation contractors must be fully licensed, bonded and insured. Self-installs do not qualify for rebates.

This product is available to Public Service residential natural gas and electric customers in Colorado with existing residential housing. The rebate applies to attic or wall insulation installs and air sealing and weather-stripping. This product excludes new residential construction, new residential additions, garages, sheds and workshops. Customers requesting rebates must contract for insulation services with fully licensed and bonded insulation contractors. To qualify for a rebate, all insulation must be installed to the manufacturer's specifications and meet all state and local codes and federal regulations. Public Service reserves the right to inspect installations before issuing a rebate. Rebates will not be issued if the same purchase has already been rebated through other Public Service rebate programs, such as through the Home Performance with ENERGY STAR Program.

F. Stakeholder Involvement

The CO DSM Roundtable quarterly meetings provide a forum for stakeholder involvement and feedback about this product as well as the full portfolio of Public Service's DSM Products. Public Service has also met with the Governor's Energy Office who conducts similar efforts with home insulation in Colorado.

G. Rebate Levels

The product will provide a rebate equal to 20% of the total cost of the insulation and installation up to a maximum rebate of $300 per customer per natural gas or electric meter.

➢ Refrigerator Recycling Product

A. Description

Public Service's Refrigerator Recycling Product strives to decrease the number of inefficient secondary refrigerators in general use, and by doing so, deliver electric energy savings and peak demand reduction. The product is designed to reduce energy usage by allowing customers to dispose of their operable, inefficient secondary refrigerators in an environmentally safe and compliant manner. Eligible customers include Public Service residential electric customers in our Colorado service territory. Customers with qualifying units will receive an incentive for their participation with this product and will not be directly responsible for any costs associated with pick-up, transportation, disposal and proper recycling of their refrigerator. Public Service will use the services of a qualified vendor to perform the following:

- Refrigerator collection, transportation and storage;
- Qualifying refrigerator at time of scheduled pick-up;
- Appliance processing and materials recycling;
- Issuing the customer incentive payment;
- All customer service aspects related to above activities;
- Product tracking and reporting; and
- Supporting Measurement & Verification requirements.

The vendor will be required to comply with all local, state and federal requirements. This includes maintaining all permits and licenses required for any facilities, equipment and personnel used for this product. The adherence to this process will ensure that recycled units will not re-enter the secondary market and be placed back on Public Service's grid.

There are several large, established recycling programs that are using a program model similar to the one proposed here, including: Rocky Mountain Power in Utah, Pacific Power in Washington, and Pacific Gas & Electric (PG&E) in California. Annual harvest rates for these programs range from a very good 2.2% for PG&E, to an excellent 3.5% for both PacifiCorp programs. All of these programs utilize similar recycling services and comparable customer incentives. The primary difference between these programs is variances in marketing responsibilities; the recycling vendor markets some programs, while others, such as our program, are marketed by the utility.

B. Goals, Participants & Budgets

Goals

Goals for this product were based on historical participation in previous product years.

Budgets

The Refrigerator Recycling Product budget was developed based on our participation goals. Recycling-related expenditures for the refrigerator itself account for approximately 63% of the overall budget. The projected rebates account for nearly 18% of the budget. Marketing,

measurement and verification, and labor expenses were then determined and added as administrative expenses. The total average cost per participant is expected to be around $200.

C. Application Process

Customers will learn about this product through various marketing channels such as bill inserts, Public Service's Update newsletter, and the Xcel Energy website. Marketing messages will direct customers to call our vendor using a toll free phone line. During the call, our vendor will ask qualifying questions in order to minimize costs and maximize customer satisfaction. The vendor will schedule an appointment and will be required to pick-up the refrigerator no later than 10 business days after taking the customer's requested date. Customers will be called one to two days prior to their scheduled pick-up date in order to confirm their appointment and remind them to turn on their refrigerator and make sure it is empty. Customers will receive their incentive check within six to eight weeks after their refrigerator has been picked-up by our vendor.

D. Marketing Objectives, Goals, & Strategy

The product will be available to customers year round; however, the marketing strategy will utilize spring and fall campaigns to promote the product.

The target market consists of an estimated 240,000 customers with a second refrigerator, usually located in a garage or basement area. Generally these customers have single-family homes with two or more individuals in the household. Customer interest in this type of product is seasonal, usually occurring in the spring, summer and early fall seasons (prior to the Thanksgiving holiday). Product demand often peaks in the summer months, which is associated with customer home improvement projects. Deployment of our promotional tactics will coincide with these seasonal time periods.

Public Service will utilize several marketing channels for this product, including bill inserts, use of our company Update newsletter, and use of the Xcel Energy website. Similar marketing opportunities exist with other Public Service products such as the Home Performance with ENERGY STAR and some of the low-income weatherization products. Targeted direct mail and telemarketing tactics may also be used. Call Center agents will direct any customers inquiring about this product to contact our vendor using a toll free number or through use of the vendor's website.

E. Product-Specific Policies

All refrigerator units must meet the following requirements in order to participate in this product:

- Must be an operational secondary refrigerator unit. No primary units will be allowed;
- Operational is defined as in working order and used as a secondary unit for at least two months prior to pick up (we are trying to avoid situations where a customer recently purchased a new refrigerator and is looking for a means to dispose of their old one, with no intention of using it as their secondary unit);

- Refrigerators must be capable of freezing water;
- Refrigerator must be plugged in the night before the pick-up date (customer will receive a call from the vendor, reminding them to do this). This is to ensure full operation (cooling/freezing and the ability to make ice) when inspected at the time of pick up;
- Refrigerators must be no smaller than 10 cubic feet or no larger than 30 cubic feet; and
- There will be a limit of two refrigerators per household.

F. Stakeholder Involvement

There are opportunities to work with GEO and other non-profit agencies such as the Energy Outreach Colorado when energy audits are being completed for low-income participants. According to GEO, their audit program is being expanded to participants who fall at or below 100% of the area median income (AMI) level, as defined by the U.S. Department of Housing and Urban Development. Public Service and GEO are considering a process where the GEO auditor would take notice of any "secondary" refrigerator units in the home and offer the participant information on Public Service's Refrigerator Recycling Product. GEO and Public Service will also consider using the same recycling vendor to remove the primary and secondary refrigerator at the same time. This could save on collection and transportation expenses and would minimize impacts to participants.

G. Rebate Levels

Participants will receive a $50 incentive to remove their inefficient secondary refrigerator. The secondary refrigerator will be removed and properly recycled at no cost to the customer. The $50 incentive is on par with many similar programs in the U.S.

In addition to the $50 incentive, customers will receive the benefit of energy savings, which on average is equal to about $100 annually and a responsible and environmentally friendly way to dispose of a refrigerator with limited remaining life.

➢ School Education Kits Product

A. Description

The School Education Kits Product offering is a turnkey product that combines a set of classroom activities with projects in the home to install energy efficiency and water conservation products. This product is targeted at sixth grade students in the Colorado service territory. Public Service plans to work with Resource Action Programs (RAP) to implement this product. RAP has a history of implementing school programs as part of their LivingWise® Portfolio. RAP will fully implement the School Education Kits Product, including recruiting and training teachers, providing all materials, and tracking participation by the students and teachers.

Along with various classroom materials, each participant receives an Education Activity Kit containing:

- Natural Resources Fact Chart
- Digital Water / Air Thermometer
- FilterTone® Alarm
- Toilet Leak Detector Tablets
- Compact Fluorescent Bulb (13 Watt - 60 Watt Equivalent)
- Compact Fluorescent Bulb (18 Watt - 75 Watt Equivalent)
- Flow Rate Test Bag
- LimeLite® Night Light
- Mini Tape Measure
- Parent Comment Card
- Wristband Postcard

An evaluation of the K-12 schools in Colorado indicates that there are roughly 58,000 sixth grade students. Grade 6 has been chosen due to alignment with Colorado State learning requirements. Specifically, the topics covered in Science Standard 4, Earth Sciences call for discussion of renewable/non-renewable natural resources, solar heat in the environment, and water circulation through the hydrologic cycle.

In Colorado, individual school districts do have the ability to establish their own standards, which supersede state requirements, so there could be some local areas where the program might be moved to the appropriate grade level to accommodate these local preferences. This is a rare occurrence, but a possibility nonetheless. The same content and kit measures would be provided, and the program would remain at that specific grade level in subsequent years.

This product has many advantages including: it enables an educational program to have direct-impact conservation; it helps build awareness of energy conservation to children, and can impact customers at all income levels. Xcel Energy offers similar products in its New Mexico and Minnesota service territories.

B. Goals, Participants & Budgets

Budgets

The product cost is all-inclusive, made up of not only the kits, but also the curriculum support materials for the teacher, the pre- and post-surveys, and website support. The product budget was developed based on participation goals and an approximate cost per kit. Labor, administration fees, and postage have been added to the budget as well. This product does not require advertising. Different school districts throughout the state will be selected to participate.

Goals

Since the Company serves approximately 70% of the Colorado state population, we have assumed that we have approximately 70% of the students or roughly 40,740 sixth grade students. RAP data indicates that approximately 80% of teachers offered participation in the program choose to participate.

C. Application Process

The teachers may enroll through various means (i.e., fax, phone, email, mail and website). If teacher response is not sufficient, RAP will redesign the marketing materials and/or offer incentives to the teachers to participate. RAP does not use incentives in every program, but if the enrollment or data collection portions are not at a satisfactory level, incentives are used to get numbers to the level desired by the program sponsor. Examples of incentives may be gift cards to select retailers.

Upon enrollment, the teachers dictate to RAP when in the school year they would like to use the program materials and provide accurate enrollment/participant numbers. RAP sends the teachers the LivingWise® Program materials close to the time when they indicated they would like to use the program. RAP staff will remain in contact with the teachers via fax, phone, email and mail at various times throughout the program to provide support for the teachers and to request the return of the audit forms. Participants are provided with a toll free number to call if they need help.

It can take up to three months to receive the results from each elementary school depending on when teachers decide to begin the activity.

Plans include informing all teachers of the program and adding them to a waiting list if they are interested in participating in the future.

D. Marketing Objectives, Goals, & Strategy

Resource Action Programs will manage all aspects of marketing and outreach for the program. They will identify the schools that are within the Public Service territory and determine the approximate number of eligible teachers and students. Then, RAP will send out customized marketing materials to help enroll the classrooms. These materials explain the program, and the fact that it's offered free of charge to their classroom thanks to the sponsoring agency (Public

Service). RAP and Public Service will work together to determine the strategic approach for selecting schools.

E. Product-Specific Policies

Only those schools that are selected to participate in the product are able to distribute the LivingWise kits. All kits must come from our selected contractor.

F. Stakeholder Involvement

Resource Action Programs will take full responsibility for marketing and management of the product.

G. Rebate Levels

The LivingWise Program is fully funded by Public Service and does not provide rebates to the customer. Students and teachers involved in the program receive a free LivingWise Activity Kit when they sign up a classroom to participate.

➢ Water Heater Rebate Product

A. Description

The Public Service Water Heating Rebate Product is designed to encourage Colorado customers to purchase and install high efficiency natural gas water heating equipment for residential use. In addition to bringing awareness to these customers about the immediate cash incentive and the long-term operational savings they will experience, the purpose of this product also is to promote market transformation through increasing customer demand for high efficiency equipment in the marketplace. By purchasing and installing a qualifying water heater, customers can submit an application to receive a cash rebate ranging from $25-$450, depending on the type of equipment. Customers may choose their own independent residential water heating contractors or installers, or may install the unit themselves. Xcel Energy currently offers this product in Minnesota and North Dakota as well.

The minimum efficiency levels in the Water Heating Rebate Product have been designed to align with those used by ENERGY STAR. Energy Star's minimum efficiency level increased from 0.62 EF to 0.67 EF beginning Sept. 1, 2010. Public Service recognizes that the 0.67 EF models require power-venting, which can increase equipment and installation costs; however, the higher-efficiency models' premium should decrease with economies of scale in the coming years. Public Service will continue to educate customers and retailers on the minimum efficiency level, and will continue to rebate additional tiers due to the lack of availability and/or qualifying units.

Eligibility requirements for participation include being either a residential natural gas or an electric customer with Public Service. The product is applicable only for the purchase of qualifying new standard tank water heaters, tankless water heaters or electric heat pump water heaters installed in new or replacement applications. The tiered rebate schedule in Colorado allows for a minimum efficiency of 0.62 EF for standard tanks. The additional tiers are 0.65 EF, 0.67 EF, tankless 0.82 EF and electric heat pump water heaters. While tankless water heaters did not pass the Total Resource Cost Test, they are included as a part of the Water Heating Rebate Product to assist market transformation through customer demand for high efficiency equipment in the marketplace.

B. Goals, Participants & Budgets

Budgets for the Colorado Water Heating Rebate Product were developed based on the expected costs per participant, in addition to costs to engage the HVAC installer base necessary to serve the territory. Specifically, this includes newsletters and direct mail in the form of informational letters to the contractor community. An internal channel manager will also reach out to the trade and develop key relationships to ensure product success.

The overall marketing budget for consumers was determined by the amount of marketing communications necessary to continue awareness of the product and to encourage participation.

This product is often cross-marketed with the Heating System Rebate Product as yet another way to save on natural-gas and electric costs in the home.

C. Application Process

The customer will learn about the Water Heating Rebate Product through bill inserts, the Heating, Ventilating and Air Conditioning (HVAC) community and through large retailers that sell water heaters on site. The typical sales cycle includes a consumer hiring an HVAC technician to install the water heater, which could be purchased through the contractor or through a retailer. Following installation, a completed Public Service application form and invoice are submitted to the utility. Forms are mailed to the utility by either the contractor (typically) or the customer, and can be submitted any time within the deadline parameters outlined on the reverse side of the application form. Invoices must reflect the same information provided on the application form, specifically model number and purchase date. Other information gathered on the application form includes the unit's efficiency level, the customer's Public Service account number, mailing address if separate from installation address, customer signature, and contractor signature, unless the equipment was self-installed..

Equipment eligibility is determined by using the Gas Appliance Manufacturers Association directory. Xcel Energy Rebate Operations team review each individual form, check to ensure all required information is provided, match the invoice to the application form, and determine the exact amount of the rebate. The Rebate Operations employee then enters the information into a Public Service application database, which notes the rebate status in the customer's Public Service account. The status will state whether a check was cut and mailed to the customer, or the explanation of why an application for rebate was denied or returned due to insufficient information. In the event of insufficient information, the application form and the invoice are returned to the customer with a letter on company letterhead requesting the additional information. If an application is returned to Public Service a second time and additional information is still needed, the application is then returned to the installer so they can assist the customer.

Customers can expect to receive a rebate in six to eight weeks after submitting the application. The product does not require pre-approval. Customers receive checks mailed to their homes; the rebate does not come in the form of a customer account credit. Rebates for new home construction are negotiated between the builder and resident or new homebuyer to determine who will receive the cash rebate.

D. Marketing Objectives, Goals, & Strategy

The product's objectives are to increase demand for high efficiency water heating equipment among Public Service customers, and through consumer demand assist the overall effort to increase the availability of high efficiency water heaters in the marketplace. The product's goal is to help Public Service customers capture energy savings with their water heating needs and understand the immediate and long-term value of purchasing and installing high efficiency equipment.

Marketing tactics are in place to assist the product meeting its goals, and these include the marketing communications strategies of Public Service bill inserts, internet pages on the Xcel Energy web site, tradeshows and trade communications (letters and newsletters), HVAC relationship building, and through point-of-purchase materials at larger retailers such as Home Depot, Lowe's and Sears.

Specifically:

- Public Service bill inserts are timed according to appropriate seasons for the equipment. Since water heating is a year-round demand, this provides flexibility with marketing seasonality. To maximize use of bill insert expenses, the Water Heating Rebate Product is cross-marketed in bill inserts along with Heating System Rebates.
- Separate Internet pages for water heating are developed for customers and energy partners—installers, contractors and distributors. The pages are updated according to equipment efficiency changes and available promotions.
- The Public Service channel manager, product manager and marketing assistant participate in appropriate tradeshows related to water heating. This participation includes the staffing of a tradeshow table to provide information about the product, and often can include presentation opportunities. The channel manager also presents product details, objectives and policies to the trade at various contractor meetings.
- The product's primary promotions channel is the trade community. Training, meetings, telephone calls, letters and newsletters with quarterly frequency keep the trade informed about the product and help to increase awareness among new contractors. Contractors are encouraged to register as a Public Service product participant and obtain a contractor ID number.
- Point of purchase materials, namely application forms and product details are made available at larger retailers and staff is trained on materials to give to customers.

Product performance is tracked weekly through an internal customer rebate processing system. Performance is reviewed weekly by the product manager and reviewed monthly by marketing management. Marketing strategies may change to meet the dynamic needs of the product depending on its performance throughout the year.

Best Practices

As a member and participating utility, Public Service supports the Consortium for Energy Efficiency's High Efficiency Residential Gas Water Heating Initiative. The long-term goal of the initiative is to increase the market penetration of high efficiency water heaters. Public Service's Water Heating Rebate Product will help CEE achieve its goals by promoting high efficiency equipment to consumers and related trade. Other initiative objectives include increasing the number of high efficiency models available by increasing the demand by consumers.

Upon launching the product, best practice efforts will include working closely with the HVAC community to ensure product guidelines, eligibility requirements and processes are clearly communicated. As the most important channel to customers, this product relies heavily upon HVAC

installers who are on the frontline with customers and are the trusted individual consumers hire to perform expensive service installation projects in their homes. Another best practice channel includes retailers that sell high efficiency water heaters on site. Public Service will provide retailers with product information and the application forms for customers who purchase their water heaters at the stores.

E. Product-Specific Policies

Product-specific policies include a pre-determined date on which applications are due for the previous year's installations. The planned date is July 31 of the following year. The water heating equipment must be purchased and installed within the calendar year, and customers and installers must adhere to all product rules that are listed on the reverse side of the rebate application form. An invoice for the equipment is required along with the application form.

High efficiency water heating equipment installed must match the Air Conditioning, Heating and Refrigeration Institute (AHRI) specifications or ENERGY STAR specifications and be certifiable via the online at the AHRI site or Energy Star site before a rebate is provided to the customer. This product requirement is communicated to the customer through the installer, on the Xcel Energy web site, through bill inserts and at many of the larger retailers where customers may be purchasing their own equipment.

Those customers applying for a water heater rebate will be rebated according to the calendar year's rebate schedule. The equipment must meet the minimum efficiency requirement. Customers are allowed to submit for more than one water heater rebate at a time, as some larger homes do require more than one.

F. Stakeholder Involvement

Development of the product included internal Public Service marketing staff from technical consulting, product development and residential product management. The team also worked with Frontier Associates, a national consulting for utility retailers and distribution companies, in addition to energy efficiency related products. Public Service staff also works with the CEE related to water heating technologies and efficiencies, and follows ENERGY STAR policies on energy efficient products.

Ongoing consumer research studies through Public Service are used to assist product modifications and enhancements. Product-specific studies are conducted every few years, allowing past participants and contractors to provide feedback about their experiences with the product. Public Service meets with the Governor's Energy Office staff as part of the development process to discuss the product concept and implementation.

G. Rebate Levels

Water Heater Type	Rebate
Standard Tank Water Heater .62 EF	$25
Standard Tank Water Heater .65 EF	$70
Standard Tank Water Heater .67 EF	$90
Tankless Water Heater 0.82 EF	$100
Electric Heat Pump Water Heater	$450

➢ Saver's Switch Product

A. Description

Saver's Switch is a demand response product that offers residential participants a $40 annual bill credit as an incentive for allowing Public Service to control operation of their central air conditioners on days when the system is approaching its peak. This product is generally utilized on hot summer days when Public Service's load is expected to reach near-peak capacity. Since the launch of Saver's Switch in 2000, Public Service has declared an average of nine control days per year. Saver's Switch helps reduce the impact of escalating demand and price for peak electricity.

When the Product is activated, a control signal is sent to interrupt the air conditioning load during peak periods, typically between the hours of 2 PM to 7 PM on weekdays. The product deploys switches with varying load control strategies. Switches installed prior to 2004 are cycled 15 minutes out of every 30 minutes (a 50% cycling strategy) during the control period. Switches installed since 2004 have utilized an "adaptive algorithm" cycling strategy. This strategy allows the switches to "learn" how a customer's air conditioning is being operated in order to achieve a 50% reduction in load. The newer switches generally provide greater load reduction per unit. Approximately 95% of the 137,000 switches in the field (as of December 31, 2010) use the adaptive algorithm strategy.

Customers may have their air conditioning controlled for up to four hours on a control day. The time period can be either 2 PM to 6 PM or 3 PM to 7 PM. Controlling over two different time periods provides Public Service the flexibility to better manage peak demands on the system.

B. Goals, Participants & Budgets

Goals and Participants

Prior to 2009, the annual participant goal for the Saver's Switch product has been 13,000 new switches installed per year. For 2009 and 2010 that was increased to 19,500 new switches. The increase was a result of the Fort St. Vrain Decision No. C08-0369 in Docket No. 07A-469E. In that proceeding, the Commission ordered Public Service to expand its demand response efforts to meet a resource need. The 2012 and 2013 Saver's Switch targets are unchanged from 2009, 2010 and 2011 goals, at 19,500 new switches.

Budgets

The primary costs in operating the Saver's Switch Product are: the cost of switches, installation, rebates to participating customers and promotional expenses for recruiting participants. The number of participants expected for the year drives these costs. As the recruitment goal is unchanged from 2011, the overall spend is largely unchanged, with the exception of the rebate amounts.

C. Application Process

Customers may sign up for the product via a mail-in form, phone, or the Xcel Energy website. Applications are generally processed and switches installed within 6 to 8 weeks. Due to variations in air conditioner age, code compliance, and where it is located next to the house, the installer will make the final onsite determination as to whether the customer qualifies for the product.

D. Marketing Objectives, Goals, & Strategy

The Saver's Switch Product is promoted to residential customers using a variety of channels including bill inserts, company newsletters, print and radio advertising, direct mail and telemarketing.

Based on an analysis of customer energy usage during the summer months, Public Service estimates that about 410,000 residential electric customers in Colorado have central air conditioning. Of those, about 131,000 were signed up for the product at the end of 2010. Where possible (i.e. in direct mail and telemarketing), the Company directs its promotional efforts to customers identified as likely to have central air conditioning.

In 2012 and 2013, Public Service expects to continue an intense promotional effort with activities including:

- Direct mail, including up-front incentives to new participants
- Outbound telemarketing
- E-mail marketing
- Bill inserts
- Radio advertising
- Print advertising

E. Product-Specific Policies

The Saver's Switch Product has the following additional requirements:

- The product does not offer customers the choice of opting out of individual control days. The one exception is in the case of medical emergencies where customers can be removed from the product on very short notice.
- When a customer moves into a premise with a pre-existing switch, they are automatically enrolled in the product, but notified that they may opt-out.
- Customers enrolled as of August 1st of each year are eligible for the discount on their October bills.

F. Stakeholder Involvement

Public Service recognizes that the HVAC community and homebuilders are in a position to influence customer attitudes towards the product. The HVAC community may also have lingering misconceptions about Saver's Switch being harmful to customers' air conditioners. Public Service is planning to increase its efforts to educate the HVAC/builder community about the benefits of Saver's Switch to customers.

G. Rebate Levels

Product participants will receive a $40 discount on their October energy bills following participation in the prior summer control season.

Low-Income Program

A. Description

The Low-Income Program includes Public Service's energy efficiency and education products targeted at income-qualified customers. With the 2012/13 Plan, Public Service continues to make a substantial commitment to both low-income gas and electric energy efficiency. The Company recognizes that low-income products offer a unique opportunity to both substantially improve the efficiency with which customers use energy and to directly improve their quality of life. Energy efficiency products likely provide other non-energy related benefits to low-income customers in the form of health, safety, comfort, and other improvements. Reductions in low-income customers' utility bills can have a disproportionately beneficial effect on household income as compared to non-low-income customers because a larger percentage of a low-income customer's income is spent on energy.

With these factors in mind, Public Service will continue to offer the same four diverse products from 2011 intended to reach a large percent of the low-income community while leveraging resources already in place to serve this customer group. The Company continues to partner with Energy Outreach Colorado, Mile High Youth Corps and the Governor's Energy Office who actively work with this customer segment.

The Low-Income Program consists of the following four products:

- Energy Savings Kit
- Multi-Family Weatherization
- Non-Profit Weatherization
- Single-Family Weatherization

Low-Income Product Rankings

Product Ranking was done for all products through the same process and the final prioritization for the entire Public Service portfolio[14]. As a result, the rankings below will not show the entire list, only low-income products. Criteria used to rank the products included: market segments, customer classes, natural gas energy savings, electric energy savings, number of participants, participant rate (% of the entire customer class), and Total Resource Cost Test results.

Table 11: Low-Income Program Product Rankings

Low-Income Program	Product Ranking	Type of Product	Fuel Market Segments Served
Energy Savings Kit	5	Prescriptive	Electric/Gas
Single-Family Weatherization	23	Prescriptive	Electric/Gas
Non-Profit Energy Efficiency	30	Custom	Electric/Gas
Multi-Family Weatherization	31	Custom	Electric/Gas

[14] The entire DSM product ranking can be found in Appendix B of this Plan.

B. Overall Budgets & Goals

The Company developed budgets and goals for the Program based on historical experience (Multi-Family, Non-Profit, and Single-Family) and target participation levels (Energy Savings Kit). Participation rates were established in partnership with GEO, EOC, low-income agencies, and vendors to further refine the goals and budgets.

Budgets for the Low Income gas segment have decreased from 2011 due to a decreasing number of non participants to market the Energy Savings Kits to, and a decrease in expected Single Family Weatherization participation from the third party program implementer. Public Service relies on customers who request and qualify for energy assistance on their energy bills to determine Low Income eligibility and is rapidly exhausting this list of prospects to market these offerings to. The Company will be seeking new sources of information to expand its efforts into the Low Income segment. Budgets for the Low Income electric segment have increased from 2011 due to an increasing number of projects identified in the Multi-Family Weatherization and Non Profit Weatherization products.

Table 12a: 2012 Electric Low-Income Program Budgets and Goals

2012	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Low-Income Program					
Energy Savings Kit	10,000	$647,664	301	5,195,061	2.64
Multi-Family Weatherization	12	$350,669	96	1,100,000	1.63
Non-Profit Energy Efficiency	25	$572,599	282	1,003,630	1.82
Single-Family Weatherization	2,545	$1,204,255	342	3,872,250	1.41
Low-Income Program Total	**12,582**	**$2,775,187**	**1,021**	**11,170,941**	**1.74**

Table 12b: 2012 Gas Low-Income Program Budgets and Goals

2012	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Low-Income Program						
Energy Savings Kit	9,998	$466,944	16,476	35,285	$1,590,990	4.09
Multi-Family Weatherization	12	$438,503	6,788	15,480	$9,846	1.01
Non-Profit Energy Efficiency	25	$628,006	6,970	11,099	$3,314	1.00
Single-Family Weatherization	1,627	$1,947,969	28,034	14,391	$806,233	1.23
Low-Income Program Total	**11,662**	**$3,481,422**	**58,268**	**16,737**	**$2,410,383**	**1.40**

Table 12c: 2013 Electric Low-Income Program Budgets and Goals

2013	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Low-Income Program					
Energy Savings Kit	8,250	$510,957	194	3,497,334	2.20
Multi-Family Weatherization	12	$389,446	112	1,283,333	1.73
Non-Profit Energy Efficiency	25	$930,248	506	1,800,234	1.96
Single-Family Weatherization	2,545	$1,222,045	314	3,575,259	1.34
Low-Income Program Total	**10,832**	**$3,052,696**	**1,127**	**10,156,160**	**1.70**

Table 12d: 2013 Gas Low-Income Program Budgets and Goals

2013	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Low-Income Program						
Energy Savings Kit	8,249	$494,467	13,593	27,490	$1,402,244	3.62
Multi-Family Weatherization	12	$439,248	6,788	15,454	$30,615	1.04
Non-Profit Energy Efficiency	25	$628,334	6,970	11,093	$28,765	1.02
Single-Family Weatherization	1,627	$1,960,019	28,034	14,303	$903,636	1.25
Low-Income Program Total	**9,913**	**$3,522,068**	**55,385**	**15,725**	**$2,365,260**	**1.39**

C. Market Analysis

The market potential study provided useful insight because it distinguished between single-family and multi-family dwellings, allowing for distinctions between these two customer types. However, likely the best information regarding the Low-Income Program comes from the entities that have historically served that market. As such, the Company relied heavily on information provided by GEO, EOC, and other agencies and non-profit organizations to design its products.

D. Marketing/Advertising/Promotion

The Low-Income Program aims to educate low-income customers on the importance of and value provided by energy efficiency. The Company will work with low-income providers, cities/counties and other community organizations to promote all available services. Marketing and promotion activities will occur primarily through partners with collateral material developed by Public Service. This tends to be the most effective way to target the low-income customers, as other targeting methods are limited. Xcel Energy's call center agents are also trained to provide useful information with which to direct potentially eligible customers to participate in the Program's products.

E. Program-Level Policies

Customers participating in the Energy Savings Kit and Single-Family Weatherization Products must purchase retail electricity or gas from Public Service on a residential tariff. Participants in the Multi-Family Weatherization Product must be a residential customer or own multi-family buildings whose rental units are a minimum 66% occupied by customers certified as low-income per product guidelines. Non-Profit Weatherization participants have business electric and gas accounts with Public Service since they are a business. Specific products within the Program may have different eligibility requirements depending on the services offered, funding partners or customers served.

F. Stakeholder Involvement

Public Service received significant input and assistance in originally developing and modifying products for the Low-Income Program and will rely heavily on stakeholders to deliver successful products. Perhaps more than any other Program, the Low-Income Program depends on outside expertise in the form of government agencies and non-profits to provide product benefits to customers. In this sense, Public Service is the facilitator that provides financial and energy efficiency resources to complement the services provided by state and local organizations.

The Company will continue to work with the GEO, EOC, vendors, outside consultants, Commission Staff, and local weatherization organizations to ensure that its Low-Income Program products are delivering promised benefits and producing effective results. These interactions will also guide mid-year performance adjustments that may be necessary to keep products on track.

G. Evaluation, Measurement and Verification

The specific product measurement and verification plans are included in the M&V section of the Indirect Products and Services in this Plan.

Products that will undergo comprehensive evaluations in 2012 and 2013 are noted in the E,M&V section of the Indirect Products and Services, as well as in the respective product description.

➢ Energy Savings Kit Product

A. Description

The Energy Savings Kit Product will provide a bundle of home energy efficiency measures in a kit that can be distributed to low-income customers through direct mail campaigns and partnerships. The kits offer electricity and natural gas saving measures, as well as customer education to help lower customer bills and improve the comfort and safety of their dwellings.

Income-qualified customers will receive an offer through the mail informing them of their eligibility to receive a free Energy Savings Kit, what the contents are, and how much they could save if they install all the measures provided. If the customer chooses to receive a kit, they will send the business reply card, postage pre-paid, to the third party implementation vendor. Customer will receive a kit within 6-8 weeks, or on the next mailing cycle.

The Energy Savings Kits will include the following electric and natural gas efficiency measures:

- High Efficiency Showerhead (1.5 gpm)
- Kitchen Faucet Aerator (1.5 gpm)
- Bathroom Faucet Aerator (1.0 gpm)
- Four (4) Compact Fluorescent Bulbs- 14 Watt (60 Watt Equivalent)
- Four (4) Compact Fluorescent Bulbs- 19 Watt (75 Watt Equivalent)

B. Goals, Participants & Budgets

Goals and Participants

The Company determined the number of kits to send out based on 2010 product performance and projections for possible participation in 2011. Participation for the 2012-2013 program years decreased due to the limited amount of income eligible customer data that The Company has access to. The kits in 2012-2013 will include two additional 19 Watt bulbs to maintain the same level of savings that were achieved in past years.

Energy savings goals for 2012-2013 included installation rates that occurred in the 2010 program.

Budgets

The Energy Savings Kit Product budgets for 2012-2013 are based on the number of participants and kits. The product budgets cover kit contents, education, production, distribution, and the fees from the third party implementation vendor.

C. Application Process

Customers who have applied for LIHEAP funding, any energy assistance funding (including county assistance and fuel fund assistance), or LEAP funding, or other state assistance programs and live in Public Service's territory will be sent an offer via mail to qualify for the product. The third-party implementation vendor will track customer participation so that customers do not receive more than one kit. This tracking information will also be provided to Public Service on a regular basis.

D. Marketing Objectives, Goals, & Strategy

The overall objective of the product is to increase and expand education among the low-income customers on the importance of energy efficiency and the value of taking action to improve efficiency in their homes. Public Service will work with state and local agencies to obtain customer mailing lists to reach more customers annually. Included in the Energy Savings Kits will be program information regarding the Single Family Weatherization Product, encouraging the customer to take action to participate in other offerings available to them.

E. Product-Specific Policies

In order to participate, customers must receive LIHEAP, LEAP, or any energy assistance funding (including county assistance and fuel fund assistance) or other state assistance programs. Public Service will explore in the future a method for allowing customers to self identify their income and allow customers slightly above the federal poverty level to participate. This would greatly expand the number of eligible customers and help individuals who are still struggling despite not meeting the income guidelines.

F. Stakeholder Involvement

The Company will continue to work with local and state agencies to determine additional kit content needs.

G. Rebate Levels

Public Service will fund 100% of the cost of the Energy Savings Kit. There will be no rebate provided to customers.

➢ Multi-Family Weatherization Product

A. Description

The Multi-Family Weatherization Product is designed to provide funding on a wide variety of equipment and process improvements for natural gas and electric efficiency measures to low-income multi-family buildings. While similar to the Single-Family Weatherization Product, this offering differs in that these homes have common areas, greater overall square footage, and more appliances and potential measures.

The Multi-Family Weatherization Product will be run in partnership with Energy Outreach Colorado (EOC). Public Service funds will supplement federal weatherization grants to produce incremental, cost-effective gas and electric savings. The EOC works jointly with the Governor's Energy Office (GEO) to identify and qualify multi-family units for the product. Details of measures, rebates, reporting processes, and measurement and verification procedures will be evaluated on a per project basis using a detailed engineering analysis.

B. Goals, Participants & Budgets

Goals and Participants
Participation for the Multi-Family Weatherization Product was created using the 2010 actual projects completed and through discussions with the EOC on anticipated product applicants. Participation can vary from building to building as many properties are master metered.

Budgets
Historical costs and participation information was tracked and analyzed to project 2012-2013 budgets. Furthermore, external resources and discussion with local stakeholders are used to ascertain expenditures and market equipment cost. Comparative spending analysis of past year activity is conducted but is not the determining annual factor, since other external variables like promotions, materials and staffing exist.

C. Application Process

To participate in the Multi-Family Weatherization Product, customers must apply through the EOC. Applications are reviewed by EOC and must have a comprehensive audit performed on the building prior to submitting applications. Low-income households must comprise at least 66% of the building's total households for the building to be eligible to apply. EOC will determine who has the greatest need for weatherization services. In some cases, if the need is very high, the application may be approved for buildings that are occupied by 50% low-income.

D. Marketing Objectives, Goals, & Strategy

The overall marketing objective is to increase and expand education among the low-income customers and building owners on the importance of energy efficiency. Public Service will also work to educate customers on the value of taking further actions to improve efficiency in their homes.

Public Service will work with the low-income providers to encourage promotion of all services available. Information will be posted on the Xcel Energy website directing customers to their local agencies. The Company may also partner with other low-income groups to further educate the customers and building owners.

E. Product-Specific Policies

In order to participate, customers must be the building owners of multi-family housing complexes with at least 66% of the rental units occupied by low-income customers whose income is below 80% of the local area median. Customers meeting the federal Department of Energy Weatherization Assistance Product funding guidelines, as determined by the GEO, local government, or their agencies, are automatically deemed income eligible.

F. Stakeholder Involvement

When designing the Multi-Family Weatherization Product, Public Service worked with external consultants to define which measures would ensure customer comfort while saving money on energy costs. In addition, Public Service will continue to evaluate historical projects with EOC to determine specific measure trends.

G. Rebate Levels

The Multi-Family Weatherization Product does not provide a rebate to customers, but rather provides project funding in the form of grants. The incentive amounts for the energy improvements can be found in the planning assumption section in this Plan.

Public Service will evaluate each project on a custom basis to determine rebate levels using a detailed engineering analysis. Engineers review the project information to determine the projected energy savings, benefit/cost ratio (i.e.TRC) and payback. Projects will be bundled in order to pass the total resource cost test for the program. Testing, engineering and project management fees may be included in the project costs.

➢ Non-Profit Weatherization Product

A. Description

The Non-Profit Weatherization Product is designed to provide funding on a wide variety of equipment and process improvements for natural gas and electric efficiency measures to qualified non-profit organizations within the Company's service territory. The product's focus is on helping organizations that serve low-income individuals, such as shelters, safe houses, and residential treatment centers for those who are on the brink of homelessness. Public Service will work with Energy Outreach Colorado (EOC) to support the Non-Profit Weatherization product. EOC utilizes funds through their existing NEEP offering (Non-Profit Energy Efficiency Program) targeting non-profits.

The Non-Profit Weatherization Product will be run in partnership with Energy Outreach Colorado (EOC). Public Service funds will supplement federal weatherization grants to produce incremental, cost-effective gas and electric savings. The EOC works to identify and qualify non-profit facilities for the product. Details of measures, rebates, reporting processes, and measurement and verification procedures will be evaluated on a per project basis using a detailed engineering analysis.

B. Goals, Participants & Budgets

Goals and Participants
Participation for the Non-Profit Weatherization Product was created using the 2010 actual projects completed and through discussions with the EOC on anticipated product applicants.

Budgets
Historical costs, donations and participation information was tracked and analyzed to project 2012-2013 budgets. Furthermore, external resources and discussion with local stakeholders are used to ascertain expenditures and market equipment cost. Comparative spending analysis of past year activity is conducted but is not the determining annual factor, since other external variables like promotions, materials and staffing exist. Public Service reviewed previous amounts spent to improve similar non-profit organizations in Colorado and based funding on overall improvements.

C. Application Process

Customers can learn about the Non-Profit Weatherization Product in a report that is submitted annually by the EOC to all low-income facilities. The EOC also reaches out to those customers who may not be aware of funding and educate them on the benefits of an energy efficient retrofit improvement. Customers who are interested in the Non-Profit Weatherization Product can apply online through the EOC website or through participating low-income providers. The online application must also be accompanied by a third-party comprehensive audit and proof that the

building is registered with the Secretary of State. A committee made up of industry leaders then determines the applicant's needs and how the joint EOC and Public Service funding can help.

D. Marketing Objectives, Goals, & Strategy

The overall marketing objective is to increase and expand education among the low-income customers and building owners on the importance of energy efficiency. Public Service will also work to educate customers on the value of taking further actions to improve efficiency at the facility.

The EOC markets the product through various channels, including communications through non-profit association literature, community resource center announcements, and local low-income foundations.

E. Product-Specific Policies

To receive funding, the following eligibility requirements must be met:

- Customers must receive electricity and/or natural gas from Public Service;
- Operate in a property they own and for which they pay energy bills or have a long-term lease that requires only non-profits to occupy the space with plans to be in current location for at least the next ten years; and
- The property to be upgraded must provide services to vulnerable populations including but not limited to: transitional housing, homeless shelters, affordable housing, domestic violence shelters and day shelters, organizations that provide services (substance abuse, health and mental health services, child care, education and/or emergency services) for special needs populations, including low-income families, the disabled, senior, and youth communities.

In addition, the following energy efficiency measures must be met:

- Be recommended by an independent energy auditor based on energy conservation calculations that are available for review; and
- Reduce the use of energy (natural gas or electricity or both) provided by Pubic Service to the facility.

In addition, participating low income agencies must be amenable to the following:

- Agree to the installation of an energy use monitoring and reporting system;
- Have a comprehensive energy audit by a qualified entity;
- Set target energy use goals for each facility; (1,048 kWh/yr; 330 Therms/yr);
- Consider installation of all qualifying efficiency measures;
- Engage appropriate contractors and manage the installation and completion of efficiency measures;
- Provide a summary project report at the completion of the installations;
- Provide all insurance and legal protections requested by Public Service; and

- Annually review the energy use of the retrofitted facility and formulate a plan for further improvement using available and appropriate assistance.

F. Stakeholder Involvement

When designing the Non-Profit Weatherization Product, Public Service worked with external consultants to define which measures would ensure customer comfort while saving money on energy costs. In addition, Public Service will continue to evaluate historical projects with EOC to determine specific measure trends.

G. Rebate Levels

The Non-Profit Weatherization Product does not provide a rebate to customers, but rather provides project funding in the form of grants. The incentive amounts for the energy improvements can be found in the planning assumption section in this Plan.

Public Service will evaluate each project on a custom basis to determine rebate levels using a detailed engineering analysis. Engineers review the project information to determine the projected energy savings, benefit/cost ratio (i.e. TRC) and payback. Projects will be bundled in order to pass the total resource cost test for the program. Testing, engineering and project management fees may be included in the project costs.

➢ Single-Family Weatherization Product

A. Description

The Single-Family Weatherization Product will offer natural gas and electric efficiency measures to low-income single-family households. Depending on need, Public Service may provide any of the following services:

Natural Gas Measures
- Furnace efficiency upgrades
- Wall insulation
- Attic insulation

Electric Measures
- Refrigerator replacements
- Compact fluorescent light bulbs (installment of 16 per home).

In addition to these measures, a major focus of this product will be customer education on ways to reduce energy use in the home. Low-income auditors will provide educational materials, historical energy usage information, and bill analysis to these customers during the weatherization process. Public Service will not claim any energy savings associated with the educational component of this product.

The Single-Family Weatherization Product is run in partnership with a third-party program implementer. The Company's funds will supplement federal weatherization grants to produce incremental, cost-effective gas and electric savings. The program implementer will develop annual contracts with the local weatherization agencies within the service territory. Details of measures, rebates, reporting processes, and measurement and verification procedures will be included and managed by the program implementer with the local contracts.

B. Goals, Participants & Budgets

Goals and Participants
Goals and participation rates were established in partnership with the program implementer and the low-income agencies using historical participation in the 2010 Single Family Weatherization Product as a guide, as well as recommendations from the program implementer on expected workflow.

Budgets
Budgets for the Single-Family Weatherization Product were developed based on the historical incremental cost of measures installed in homes.

C. Application Process

Public Service customers will be informed of the Single-Family Weatherization Product when they sign up for LIHEAP funding. In order to participate in the product, they must have applied for LIHEAP funding. Once it is determined that the customer meets the income guidelines and receives energy services from Public Service, they will be qualified by their local participating agency to receive weatherization services. Low-income agencies will actively seek out customers that qualify to participate in this product, and customers can inquire about it on their own as well. Information will be provided to new customers as they sign up for LIHEAP funding.

D. Marketing Objectives, Goals, & Strategy

The overall marketing objective of this product is to increase and expand education among the low-income customers on the importance of energy efficiency and the value of taking action to improve efficiency in their homes. Public Service will work with the low-income providers to encourage promotion of all services available. Information will be posted on Xcel Energy's website directing customers to their local agencies. The Company may also partner with other low-income groups.

E. Product-Specific Policies

In order to participate, customers must purchase retail electricity or gas from Public Service on a residential tariff and have a household income below 80% of the area median income. Customers meeting the DOE Weatherization Assistance Program funding guidelines, as determined by the program implementer, local government, or their agencies, are automatically considered income eligible.

F. Stakeholder Involvement

When designing the Single-Family Weatherization Product, Public Service worked with external consultants to define which measures would ensure that the customer is comfortable in their home and will also save money on their energy costs. The Governor's Energy Office (GEO) has contracted with low-income weatherization agencies to perform weatherization measures. These contractors are funded through the GEO and other state funding and have agreed to weatherize homes following state regulations and guidelines.

G. Rebate Levels

Public Service will fund a pre-established amount for each low-income, single-family weatherization measure. The following table below provides the incremental cost of each measure. The measures that were considered replacement on burnout do not include a labor and equipment rental cost, as the measure would have to be replaced regardless of whether there is an efficiency upgrade or not.

Indirect Products & Services

A. Description

The Indirect Products and Services support the direct products in the overall Plan. Most of these products and services are not independently evaluated for cost-effectiveness, with the exception of pilot products that are being evaluated to become direct impact products, and therefore do go through a cost-effective evaluation if savings impacts are measured. These pilots are fully described in the Product Development description of this Indirect Products and Services section. All of the Indirect Products and Services costs are included in the overall portfolio cost-effectiveness evaluations.

There are two main areas under the Indirect offering: Education/Market Transformation and Planning and Research. Within the Education/Market Transformation area, the Company will offer four customer-facing products, including: Business Energy Analysis, Consumer Education (formerly Customer Behavioral Change – Business), Consumer Education – Residential (formerly Customer Behavioral Change – Residential, and Residential Home Energy Audits. Within the Planning and Research area, Public Service will operate four internal services: DSM Market Research, DSM Planning & Administration, DSM Product Development, and Evaluation, Measurement & Verification.

Public Service believes strongly that products and services within the Indirect offering play critical roles in ensuring that the overall DSM Plan is effectively researched, managed and operated. The Indirect products and services provide valuable information and support for the direct impact products and offer innovative approaches to effecting changes in the demand-side management marketplace. These innovative approaches, manifested in education and market transformation products, may not produce readily quantifiable energy and demand savings, but still play a very important role in shifting markets and attitudes to be more energy efficient and demand responsive.

However, because the majority of these products and services do not directly produce energy and demand savings and, therefore, may reduce the overall cost-effectiveness of the DSM portfolio, there is a natural tendency to limit activity and spending in this area to only the most essential elements. The Company will not limit its Indirect spending to a specific percentage of the overall portfolio, but will remain vigilant about limiting the Indirect products and services overall size.

B. Overall Goals, Participants & Budgets

Indirect products and services have no savings goals, with the exception of three pilot products, under the Product Development section. The budget consists primarily of labor, educational material, and study costs. Most studies are conducted by outside experts, generally selected through a competitive bid process. Tables 27a through 27d provide the overall Indirect products and services goals, participants, and budgets if applicable, broken out by product and service.

Table 13a: 2012 Electric Indirect Products & Services Goals & Budgets

2012	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Indirect Products & Services					
Education/Market Transformation					
Business Energy Analysis	400	$992,648			
Consumer Education - Business	1,385	$153,765			
Consumer Education - Residential	34,000	$1,232,674			
Residential Home Energy Audit	2,175	$635,574			
Education/Market Transformation Total	**37,960**	**$3,014,661**			
Planning and Research					
DSM Planning & Administration		$287,559			
Program Evaluations		$384,312			
Measurement & Verification		$78,097			
DSM Market Research		$274,912			
DSM Product Development		$1,022,558			
Energy Feedback Pilot	50,000	$379,400	684	8,560,821	1.36
In-Home Smart Device Pilot	600	$1,240,597	0	0	
Electric Vehicle Charging Station Pilot	0	$20,000			
DSM Product Development Total	**50,600**	**$2,662,555**	**684**	**8,560,821**	
Planning and Research Total	**50,600**	**$3,687,436**	**684**	**8,560,821**	
Indirect Products & Services Total	**88,560**	**$6,702,097**	**684**	**8,560,821**	

Table 13b: 2012 Gas Indirect Products & Services Goals & Budgets

2012	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Indirect Products & Services						
Education/Market Transformation						
Business Energy Analysis	100	$159,182				
Consumer Education - Business	593	$50,002				
Consumer Education - Residential	34,000	$250,557				
Residential Home Energy Audit	2,400	$517,030				
Education/Market Transformation Total	**37,093**	**$976,771**				
Planning and Research						
DSM Planning & Administration		$103,538				
Program Evaluations		$254,626				
Measurement & Verification		$14,010				
DSM Market Research		$258,736				
DSM Product Development		$246,619				
Energy Feedback Pilot	50,000	$94,856	23,758	250,464	$42,319	1.45
In-Home Smart Device Pilot	0	$0	0			
Electric Vehicle Charging Station Pilot						
DSM Product Development Total	**50,000**	**$341,475**	**23,758**	**69,575**	**-$204,300**	
Planning and Research Total	**50,000**	**$972,385**	**23,758**	**24,433**	**-$835,211**	
Indirect Products & Services Total	**87,093**	**$1,949,157**	**23,758**	**12,189**	**-$1,563,582**	

Table 13c: 2013 Electric Indirect Products & Services Goals & Budgets

2013	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Indirect Products & Services					
Education/Market Transformation					
Business Energy Analysis	400	$1,029,449			
Consumer Education - Business	1,385	$153,765			
Consumer Education - Residential	34,000	$1,232,674			
Residential Home Energy Audit	2,175	$581,677			
Education/Market Transformation Total	**37,960**	**$2,997,565**			
Planning and Research					
DSM Planning & Administration	0	$305,838			
Program Evaluations	0	$596,873			
Measurement & Verification	0	$102,223			
DSM Market Research	0	$263,011			
DSM Product Development	0	$1,031,536			
Energy Feedback Pilot	50,000	$361,048	684	8,560,821	1.51
In-Home Smart Device Pilot	0	$983,906	0	0	
Electric Vehicle Charging Station Pilot	0	$20,000			
DSM Product Development Total	**50,600**	**$2,396,489**	**684**	**8,560,821**	
Planning and Research Total	**50,600**	**$3,664,434**	**684**	**8,560,821**	
Indirect Products & Services Total	**88,560**	**$6,661,999**	**684**	**8,560,821**	

Table 13d: 2013 Gas Indirect Products & Services Goals & Budgets

2013	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Indirect Products & Services						
Education/Market Transformation						
Business Energy Analysis	100	$161,658				
Consumer Education - Business	593	$50,002				
Consumer Education - Residential	34,000	$250,557				
Residential Home Energy Audit	2,400	$522,618				
Education/Market Transformation Total	**37,093**	**$984,835**				
Planning and Research						
DSM Planning & Administration		$117,300				
Program Evaluations		$267,182				
Measurement & Verification		$25,850				
DSM Market Research		$246,028				
DSM Product Development		$255,106				
Energy Feedback Pilot	50,000	$90,260	23,758	263,217	$56,910	1.63
In-Home Smart Device Pilot	0	$0	0			
Electric Vehicle Charging Station Pilot						
DSM Product Development Total	**50,000**	**$345,366**	**23,758**	**68,791**	**-$198,197**	
Planning and Research Total	**50,000**	**$1,001,726**	**23,758**	**23,717**	**-$854,556**	
Indirect Products & Services Total	**87,093**	**$1,986,561**	**23,758**	**11,959**	**-$1,590,991**	

C. Market Analysis

Indirect serves all markets addressed by Public Service's direct impact products. During 2012 and 2013, market research activities will be focused on customer and market characterization. Each process evaluation conducted by Market Research includes: the quantification of product penetration, provides segment and target market information, determines trends and barriers affecting participation, and investigates best practices observed by peer utility programs. This information provides a basis from which product and program decisions can be made.

Through membership in consultative organizations such as E Source, Market Research receives vendor-neutral and reliable market intelligence overall, and specific to a product/program or by targeted segments. Other general research provides demographic and firmographic data about the characteristics of our customer base, attitudinal and awareness information which informs market strategy, and levels of customer satisfaction which address program vitality.

D. Marketing/Advertising/Promotion

Marketing, advertising, and promotion activities under Indirect Products and Services are primarily focused on the Education/Market Transformation area. The very nature of these products suggests that they will use customer contacts in the form of newsletters, bill inserts, community events, energy efficiency workshops, direct mail and email campaigns, communications to new residents, and advertising through radio, television and print to educate customers and transform markets. Promotional costs are also budgeted to create awareness and generate enrollments in the Residential Home Energy Audit and Business Energy Analysis.

E. Program-Level Policies

The Company will make every effort to focus its Education and Market Transformation messages and promotions on Public Service customers, yet there will likely be spillover benefits to non-Public Service customers particularly with those activities that convey information to general audiences (like the Company website, partnerships with regional agencies, and community-based events).

F. Stakeholder Involvement

The Indirect offerings rely heavily on input from internal and external stakeholders, and, as such, manage the Company's interaction with "official" stakeholder groups such as the DSM Roundtable. Market Research and Education/Market Transformation activities actively engage internal and external stakeholders including employees, customers, trade allies, and vendors to ensure that product objectives are met.

G. Evaluation, Measurement and Verification

The Indirect offering includes the Evaluation, Measurement and Verification (EM&V) Plan, which describes the evaluation, measurement and verification plan for all of the DSM products included in this DSM Plan. The majority of Planning and Research services themselves are not subject to EM&V, with the exception of pilot products under the Product Development service, which is fully described below under the Product Development description.

The DSM Planning & Administration group is responsible for developing the EM&V methodologies, while the DSM Market Research group will oversee the third-parties conducting the research. These efforts are described in more detail within the EM&V and DSM Market Research Product descriptions.

➢ Business Energy Analysis

A. Description

The Energy Analysis Product is an indirect impact product that offers Colorado business customer's analysis services to identify energy saving opportunities. The goals of this program are to provide a method and entry way for commercial and industrial customers to learn how their business uses energy today and to identify measures that will help them save energy and reduce operating costs in the future. This service focuses on a customer's building envelope and is a first step for customers to uncover energy saving opportunities with little capital investment and risk. Public Service representatives have and continue to use this as an initial selling point for energy efficiency programs. Participation is heavily dependent on promotion by internal Public Service representatives, as well as the trade partners and outside business customer assistance programs.

The Energy Analysis Program offers three different types of assessments: online assessments, onsite analysis and engineering assistance studies, which vary in customer involvement and capital investment. The reports in all three assessments provide detailed information about cost and paybacks, which will assist in creating a business case to make energy efficiency upgrades.

- Online energy assessments: An online energy assessment is a free online tool developed and operated by EnerSys, a third-party provider. This online assessment interviews the customer about his or her equipment and operating conditions to uncover areas where energy and cost savings opportunities may exist. Based on industry averages and trends, regional data, and customer knowledge of the facility, the online tool is a starting point for determining energy saving opportunities. This tool requires the customer to invest time, but no money in the analysis, making it virtually risk-free. For the purposes of the online assessment, the online tool uses an industry average facility based on a regional industry average derived from Energy Information Administration (EIA) data and E SOURCE. Most of the EIA's information about commercial buildings and their energy use comes from the Commercial Buildings Energy Consumption Survey which collects energy-related building characteristics data and energy consumption and expenditures data for commercial buildings in the United States. E Source provides independent research and information services mostly through their Building Energy Advisor database, utilizing Department of Energy data surveys.

- Onsite energy assessment: Public Service sends an energy advisor to a customer's facility to conduct an onsite energy assessment, which is a comprehensive audit of the facility and its energy use. The customer receives a detailed report including energy conservation opportunities with the associated payback, savings, cost and available rebates. Qualified auditor(s) are selected through an RFP process to perform the onsite assessments across Public Service's Colorado service territory.

- Engineering assistance studies: Provides the customer guidance when the customer is seeking to replace or upgrade of a major process or system. The customer will hire a provider of his or her choice to analyze the facility and develop recommendations for the most energy efficient options for the equipment. The analysis targets customers who are

focused on analyzing their refrigeration, cooling, custom or space and processing heating systems.

B. Goals, Participants & Budgets

Goals and Participants

2012-2013 Goals were developed using historical participation in Colorado, the present commercial and industrial customer market, and other Xcel Energy jurisdictional offerings.

Budgets

The Energy Analysis budget was developed based on the participation goal and historical data for the program. Public Service and third-party auditors established a pricing schedule based on the size and location of the building. The product team used this information, combined with historical data, to estimate an average assessment cost. The rebate level and participation goals are expected to stay the same for the next two years.

For the Energy Analysis Program, labor, promotions and consulting drive most of the budget. The following was used to identify these specific drivers.

- Consulting: Developed using average auditor pricing and participation goal.
- Labor Charges: Determined by estimating the number of full-time employees needed to manage the program and execute the marketing strategy and rebate process.
- Promotions and Advertising: The estimated promotional budget anticipates several customer and trade communications during the year and a contribution to the general conservation advertising campaign.

C. Application Process

Customers may become aware of this program through their Account Manager or the Business Solutions Center, Energy Efficiency Specialists, contracted trade allies, external customer assistance programs such as the City of Denver's Recharge Colorado program, and/or marketing efforts including mailings, newsletters and the Xcel Energy website. All avenues are essential for increasing program awareness in cooperation with the marketing efforts. If a customer is interested in an online assessment, preapproval is not necessary. Customers will find the free online tool linked to the Xcel Energy website.

Onsite assessments and Engineering Assistance studies require preapproval prior to project completion. Customers may access the onsite assessment preapproval application on the Xcel Energy website and work with their Public Service representative to complete the preapproval process by collecting their billing history information. Once the application is complete with customer and building information an auditor will be assigned to assess the building. The customer

will typically receive their final report from the engineer within three months from applying for preapproval. This time allows for internal processing, onsite engineer walkthrough of the facility, creation of the report, and a final review by Public Service internal engineering staff on a case-by-case basis. The preapproval application for Engineering Assistance Studies can also be found on the Xcel Energy website or provided by the customer's representative. The customer must select an engineering firm prior to preapproval, because a project proposal including the scope of work must be included with the preapproval application to determine funding levels. Engineering studies typically take three to six months to complete and to be reviewed and approved by Public Service internal engineering staff.

D. Marketing Objectives, Goals, & Strategy

The main goal of the Energy Analysis Product is to raise awareness and knowledge of Public Service's energy efficiency products. The Company will rely heavily on the trade and related programs, such as city- and county- driven programs throughout Colorado, to increase awareness in the Energy Analysis Product and partner in the audit process. Though the target markets will differ by assessment type, both online and onsite assessments are popular with small business customers. The most participants are expected to be in the following segments: churches, restaurants, manufacturing, office/warehouses, and multi-family/apartment buildings. Conversely, engineering studies are popular with larger commercial and industrial customers.

Methods used to reach and educate customers include:

- Xcel Energy website: Provides a description of the program offering, links program collateral and study brochures;
- Collateral available: Program brochure, case studies, applications, frequently asked questions and study templates so the customer has an idea of the information they will receive by participating, report examples and study brochure;
- Direct mailings: Informational piece to gain awareness and understanding of the program offerings;
- Email campaigns: Brief email available for Public Service representatives to gain interest in the program from their customers;
- Newsletters: Another medium to gain customer awareness and participation in the program; and
- Customer seminars: Educate customers about the program offering and benefits.

E. Product-Specific Policies

Indirect impact products are different from traditional products because there are no immediate savings attributed to the product. Energy Analysis is meant to open the door for customers to participate in Public Service's other energy efficiency offerings and rebates that have direct impacts that contribute to our goals. Once an onsite assessment or engineering report is complete the

customer will receive a summary of energy conservation opportunities that could be prescriptive, custom or involve recommissioning. When the customer moves forward with implementation, they will have to follow the appropriate product guidelines, as Energy Analysis does not take credit for the opportunities found in the report.

F. Stakeholder Involvement

Public Service worked closely with the contracted audit trade allies to develop and streamline its assessment process. In the future, the program will look for recommendations from the DSM Roundtable to determine if program modifications are needed.

G. Rebate Levels

Customers do not receive a rebate for participation in the Energy Analysis Program, but they do receive study funding assistance for the onsite assessment and the engineering study. Energy Analysis offers two types of study funding based on whether an onsite assessment or engineering study was completed. Participants in an onsite assessment are responsible for paying $200 or $300 per assessment, depending on the building square footage, which is approximately 10-15% of the actual cost of the audit. Public Service will pay up to 75% of the engineering study cost, up to $25,000; funding is based on the potential energy savings of the project and the cost of the study.

➢ *Market Transformation*: Consumer Education

A. Description

Market transformation strategies attempt to remove barriers to adoption of energy efficiency measures in order to achieve a permanent shift in a market. The definition of market transformation in the Public Service gas DSM Rulemaking is:

> *…a strategy for influencing the adoption of new techniques or technologies by consumers. The objective is to overcome barriers within a market through coordinating tactics such as education, training, product demonstration and marketing, often conducted in concert with rebates or other financial incentives.*

The initial goal of the Consumer Education (CEE) Product is to improve public knowledge concerning the benefits of energy efficiency and conservation. The Company views this as the initial phase in a long-term process of creating educated, engaged customers who are ready to act on energy efficiency opportunities. The following key messages will be incorporated into all of the product's marketing efforts:

- DSM is a more cost-effective resource than building new generation resources; and
- DSM costs incurred today are an investment that defers incurring higher costs for new generation equipment later.

Further, the purpose of the CEE Product is to induce permanent behavioral changes in the energy usage of residential and business customers through long-term education and proactive customer interactions. A key to the success of market transformation is creating sophisticated consumers who have information that allows them to make more informed and effective decisions. Among the behavioral and attitudinal changes that will affect market transformation are shifts in conventional thinking, heightened awareness, and increased knowledge. Specifically, the CEE Product will educate customers about how to use energy wisely, how to change energy usage behaviors, and how to buy energy efficient appliances, such as ENERGY STAR-rated appliances. Going beyond the initial education, the true intent of this product is to engage customers about energy conservation and efficiency and motivate them to reduce their energy usage.

Messages and themes of the CEE Product will emphasize (1) the partnership between the customer and Public Service; (2) clear actions that can be taken by the customer; and (3) a results-oriented approach. A key to successful market transformation is being able to provide clear answers when stakeholders ask how they benefit from energy efficiency. The perceived benefits and expected outcomes for market transformation strategies will be clearly defined to receive a high degree of acceptance and support among customers. Specific messages and themes are outlined below in the respective business and residential overview sections.

The Consumer Education Product will emphasize:

- Introducing energy efficiency and conservation behavior changes into the marketplace;
- Advancing existing energy efficient technologies (ENERGY STAR), services, and behaviors so that they become more widespread; and

- Removing or decreasing the use of inefficient technologies, services, and behaviors.

Recognizing that market transformation is best accomplished at a regional or national level, Public Service will create and leverage strategic partnerships and alliances with governmental, non-governmental, and trade partners to reach target business and residential customers. The following sections describe some of those partnerships for both business and residential behavior change products.

Successful market transformation efforts are typically long-term in nature and utilize methods to understand customer acceptance and behavioral change. Therefore, the CEE Product will use two measures to define our progress from year-to-year—a general participation goal and direct interaction goal. The general participation goal describes the number of customers the Company will reach out to via print, radio, and internet advertising. This is the general education and awareness portion of the product that intends to build awareness and familiarity amongst our business and residential customers about energy efficiency and conservation. The direct interaction goal describes the number of customers who have received the initial education and are now actively seeking and performing behavioral changes to reduce their energy usage. Direct interactions are defined as occurrences when customers actively engage with Public Service about general efficiency and conservation topics.

Consumer Education tactics will include efforts that require customers to contact the Company for more information. This will be tracked primarily through interactions at public events, e.g., community events and workshops, as well as requests for further information from advertising campaigns and internet inquiries. These direct customer activities comprise the primary metric that will be used to evaluate market transformation efforts over longer time periods. The following sections describe the specific intent of the CEE Product by residential and business sectors.

Residential Consumer Education Overview

This product is targeted to all Colorado gas and electric residential customers. Through repeat communications and interactions with customers, Public Service will move from awareness strategies to behavior change strategies to help customers manage their energy usage. Market transformation activities in this product are about going beyond awareness and familiarity and motivating customers to take steps to reduce energy usage. Messages and themes through the residential portion of CEE Product will specifically (1) reinforce simple, executable steps customers can take to reduce energy usage; (2) encourage purchase of ENERGY STAR-approved appliances; and (3) promote participants to actively encourage others to do the same.

Because the residential segment is demographically varied, Public Service employs a variety of resources and channels to communicate conservation and energy efficiency messages. The strategy deployed will initially encompass awareness messaging and activities. In the initial implementation of the product, primary emphasis will be placed on:

- Community-based events, such as home shows and conservation events;
- Partnerships with local, regional, and state government agencies where possible, as well as non-governmental agencies to reach target residential audience segments;
- Utilizing mass market advertising such as radio, print and internet to create awareness in energy efficiency;

- Online messaging through targeted websites;
- Sponsorship of local Earth Day events;
- Conservation messaging through Public Service's newsletters and bill inserts to residential customers; and
- Publication of reference education materials (in English and Spanish).

The Company has offered a similar product in its Minnesota service area for more than a decade. The Minnesota product provides years of experience and best practices that is reviewed to benefit the CEE Product in Colorado.

Business Consumer Education Overview

This product is targeted to all Colorado natural gas and electric business customers, with stronger emphasis on small- to mid-sized customers. As a result of this product, Public Service hopes to create public awareness of energy efficiency and energy conservation while providing business customers with information on what they can do to reduce energy usage. Primary emphasis is placed on:

- Energy efficiency and conservation messaging through email and print newsletters;
- Focused customer segment events and sponsorships through business and trade associations;
- Utilizing mass market advertising such as radio, print and Internet to create awareness in energy efficiency;
- Customer outreach through energy efficiency workshops; and
- Customer employee behavior change campaign (BC Hydro Power Smart model).

E-Source has identified the BC Hydro Power Smart model for the business segment as one of the more notable business behavioral change products in existence today. This model essentially creates an energy efficiency team comprised of a core group of employees within a company that implement an energy efficiency plan. First, a company is asked to send a select group of employees to an energy efficiency workshop. The employees are taught the basics of energy conservation and are asked to create a plan specific to their company. The group is then sent away with posters, stickers, and tip sheets to hand out and place at work. This model has worked particularly well – using a core group to deliver energy efficiency messages throughout the workplace. One of the reasons for this is that the company employees have an understanding of their roles upfront and there is an established group responsible for meeting goals.

B. Overall Goals, Participants & Budgets

Goals and Participants

The Consumer Education Product is an indirect impact product. Therefore, the product goals are measured in the number of participants, instead of direct energy savings. The number of participants forecasted in 2012-13 reflects an increase from the first three years of the program due to the increased number of people we have been able to interact with through event marketing.

Budgets

Public Service's budget for this product was determined through estimates of material, labor, and past activities in Colorado and other states. The majority of the budget is driven by customer education, conservation promotion and labor. Public Service anticipates that the budget for 2012-13

will remain about the same in order to get the word out about energy efficiency messaging to residential customers through a variety of channels.

The residential budget for Consumer Education is higher for natural gas than electric due to the number of opportunities for gas energy efficiency within the home compared to electric opportunities. Customers have more opportunities to reduce their gas usage through energy efficiency, such as heating, water heating, insulation, and appliances, compared to electric that is generally limited to lighting, cooling and appliances. In addition to the opportunities within the house, as prices for fossil fuels, including natural gas, are anticipated to increase, there will be a growing urgency for customers to manage their utility bills by addressing how they use gas within their homes. The business budget is higher for electric because most businesses have more equipment and process loads that use electricity compared to gas.

C. Application Process

No application or approval process is required for this product.

D. Marketing Objectives, Goals, and Strategies

The primary objective of the Consumer Education Product is to heighten residential and business customers' awareness about energy efficiency and conservation and then develop engaged customers who will proactively take steps to reduce energy consumption. The goal of the product is to get customers to conserve and upgrade to high efficiency measures when possible. Public Service will employ communications and provide behavior-altering strategies that customers can implement in their daily lives to conserve energy (move customers from awareness to action).

The residential portion of the product will target all residential customers in our Colorado service area. We plan to partner with the Governors' Energy Office (GEO), Electric and Gas Industries Association, the Center for Resource Conservation, and local government and non-governmental agencies to drive home the message so the customer is not just educated, but engaged and therefore ready to act.

The Company anticipates using a variety of communications channels including the internet, print, radio, and events for these communications efforts. Messaging will emphasize specific energy saving tips residential customers can implement in their daily lives to reduce their energy usage. Seasonal promotions are anticipated to help customers manage their usage during high-bill seasons, e.g., summer and winter.

The messaging will also support various energy conservation and energy management products the Company has available to residential customers. The product campaign will include financial and environmental benefits of energy conservation and will promote ease of implementation to lead the customer to action. The following are some of the proposed activities in support of the Residential Consumer Education Product.

Residential Consumer Education Communication Tactics

Residential Customer Communications Tactics	**Description**
Energy Update Newsletter/Conservation Tips	Energy efficiency messages delivered through newsletter on bimonthly basis.
Neighborhood Sweeps	Partner with non-profit organizations to canvas neighborhoods with information about making homes more energy efficient.
Conservation-focused email	Targeted, personalized campaigns to key segments and promotions to capture customer info and give energy-saving tips.
Possible Community Events	National Western Stock Show Colorado Home/Garden Show Pueblo Home & Garden Show Earth Day Events Boulder Creek Festival TEVA Mountain Games Western Welcome Week Colorado Fall Home Show Fruita Fall Festival Trail of Lights
Enhanced Web (home page) Messaging	Enhance existing Web presence to promote conservation and tie to branding campaigns.
Speaker's Bureau	Increase community outreach with conservation presentations by energy raters. Energy saving tips and do it yourself.
Power Check Program	Supply public library systems with watt meters that can be checked out along with information about energy efficiency and conservation information.
Conservation Advertising-Radio, Print, and Web	Messaging to residential customers about efficiency and conservation through optimal channels. Anticipate seasonal schedule.
Gas and Electric Conservation Brochures	Distribute through event channels and with partners to promote conservation education.
ENERGYSMART Library and University	Utilize the existing online energy efficiency database as a tool for customers to learn about opportunities to make changes within their home and lower utility bills.

The business portion of the CEE Product will focus primarily on creating awareness of energy conservation while providing business customers with information on what they can do to reduce energy use in their buildings. The product hopes to encourage customers to make Public Service their first contact when considering energy efficiency and conservation, and to engage customers to make changes that lower their energy use. It will focus on educating customers and their employees regarding impacts of their energy use and offering choices and information on how to take action to achieve long-term energy and environmental savings. Public Service will consider the following strategies to promote the business Consumer Education message:

Business Consumer Education Communication Tactics

Business Customer Communications Tactics	Description
Energy Solutions Newsletter	Energy efficiency and conservation messaging delivered through print and e-mail newsletter on a quarterly basis.
Focused customer segment events and sponsorships through business associations	• Government • Education • Hospitality • Nonprofit • Small Business Association • Chambers of Commerce • Building Owners and Managers Association • National Association of Industrial and Office Properties
Energy efficiency workshops	Utilize energy auditors to present energy efficiency workshops to customer groups.
Customer Employee Education Campaign	Engaging customer's employees in energy conservation and changing workplace behavior to enhance efficiency and save costs. Resources and tools to assist organizations in developing creative and effective campaigns.

E. Product-Level Policies

This product has no specific policies.

F. Stakeholder Involvement

Public Service will collaborate on messaging with the GEO and other consumer organizations to deliver consistent energy efficiency education to our business and residential customers. The Company will meet with GEO regularly to discuss our initiatives and where possible, consider coordinating seasonal messaging to maximize the outreach effort. In, addition, Public Service will also partner with the other governmental organizations, chambers of commerce, and business/industry trade associations. Further, we will solicit feedback from customers through market research, as well as through the product metrics, to best target and tailor our messages.

G. Rebate Levels

Customers will not receive rebates, as this is an indirect product.

➢ Residential Home Energy Audit

A. Description

The Home Energy Audit Product offers Public Service residential customers a rebate on three types of auditing services: the Standard Audit, the Standard Audit with Blower Door Test, and the Infrared Audit, which includes a blower door test and infrared imaging. The purpose of this product is to improve energy savings by influencing homeowners' and renters' behaviors through conservation education.

The essential elements of in-home Standard Audit are:

- Customer energy bill analysis
- Client assessment and education
- Shell assessment
- Mechanical and electrical equipment review
- Energy savings recommendations derived from energy modeling software

The customer has the option to work with the auditor add a blower door test, combustion safety test (CAZ), and/or an infrared test to the Standard Audit for more feedback on the current performance of their residence. Typically, the audit begins with the auditor's review and analysis of the billing history since this is often an indication of what the customer may need to address first. The auditor also takes this opportunity to discuss any concerns or questions that the customer may have regarding their homes energy usage and related comfort.

Once the areas of concern are identified, the auditor initiates the onsite inspection. This process begins with a shell assessment of the exterior of the home, identifying cracks or exterior signs of air leakage or maintenance needs. The auditor then begins the interior evaluation with inspection of the attic or crawl space to determine what insulation has been installed prior to the audit and upgrades the customer should consider, such as additional insulation and sealing bypass areas.

Next, the auditor reviews the home's heating and/or air conditioning systems for efficiency ratings and discusses monthly maintenance tips. The auditor will also show the customer how to implement suggested maintenance options like changing air filters on a regular basis. As the auditor moves through the home, they continue to educate the customer on how they can implement energy efficient measures. The auditor will inspect and provide information on the efficiency of their appliances, as well as on possible replacement options that are ENERGY STAR-qualified.

Finally, the Standard Audit ends with a review of the top three to five recommendations to the homeowner and a final review of the customer's questions and concerns. The auditor will email the completed report and scope of work to the customer and leave behind efficiency product collateral on relevant rebate products. The entire in-home audit process takes about two hours to complete and can vary depending on size of home.

Blower door testing will be offered as part of the Standard Audit with Blower Door Test, and the Infrared Audit offerings. The blower door test is a diagnostic tool designed to measure the air

tightness of a home and identify air leakage locations. A blower door consists of a calibrated fan for measuring the airflow rate and a pressure-sensing device to measure the pressure created by the fan's airflow. The combination of this pressure and fan's airflow measurements are used to determine a home's air tightness. Before the test is performed, customers must go through their home closing and locking all exterior windows. Once the fan is turned on a vacuum effect is created and customers can then check windows and interior bypasses by holding up their hands and feeling the airflow created. Because this test provides such a visual image for customers, they are often motivated to address air sealing opportunities that they may have overlooked prior to the testing. This tool can also identify potential venting issues around a home's heating system.

The Infrared Audit includes the Standard Audit elements listed above with the addition of infrared imaging and mandatory blower door testing. Benefits of infrared testing include identifying insulation needs, moisture problems, and air leakage paths within walls, attics, windows and doors, as well as providing a quality check for existing insulation. Infrared testing along with the required blower door test gives customers a visual understanding and detailed list of structural conservation improvements available to them through non-invasive testing, thus identifying additional savings potential. As with the Standard Audit product offerings, customers receive a cash rebate from Public Service and pay the auditor directly.

In 2012/2013 the Company has redesigned this product to allow continued growth of auditors' businesses and home performance improvements completed by one stop shop contractor models. The company has transitioned the product to offer a customer rebate for a completed audit instead of the previous model of subsidizing the audit cost and utilizing one main auditing vendor. To maintain consistency, training, audit quality, and overall quality assurance between the auditors, we will require auditors to use a specific energy modeling software package.

Public Service plans to use this Audit Product to support and drive participation in our Home Performance with ENERGY STAR Product. A customer who participates in the Home Performance product must begin the process with an advanced home audit to identify areas for improvement. Our intent is to use the Home Energy Audit Product to educate participants as to whether or not their house is a good candidate to go through the Home Performance with ENERGY STAR offering; develop a scope of work; and encourage customers to complete the recommended improvements.

B. Goals, Participants & Budgets

Goals and Participants

The Home Energy Audit Product includes a participant goal, but no energy or demand savings goals since this product does not measure direct savings. Combination gas and electric customers will be counted in both the total gas and electric participant counts for the annual status report. Likewise, electric only and/or gas only customers will be counted as either gas only or electric only. Public Service took the new program model into consideration when determining the participation goal. We are anticipating fewer participants than in 2011 as the market shifts to this new format.

Budgets

The Home Energy Audit Product budget was developed based upon the desired participation level, associated product software, and administration costs. Using the products previous years'

performance and marketing needs as a proxy, the cost of the rebate, product collateral, and all necessary marketing efforts are included.

C. Application Process

The customer will contact Public Service through the customer call center or our website to find a qualified and participating auditor. The customer calls the auditor to schedule the appointment. Once the audit is complete and the customer has received the audit report, the customer or the auditor submits the rebate paperwork with proof of purchase. A rebate takes at least six weeks to process once we receive the application. Customers are limited to one audit per three-year period, unless they move to a new address.

D. Marketing Objectives, Goals, & Strategy

Historically, Xcel Energy's Home Energy Audit Product has proven to be a popular offering in both Minnesota and North Dakota, and now Colorado. This product will be marketed primarily through seasonal bill inserts, trade allies, and media relations. The product team will work with Media Relations to contact local media television and print outlets with information and interviews around this product offering. This tactic can be extremely successful during both winter and summer months when customer utility bills tend to increase. Further, Public Service will market this product through general customer inquiries regarding their energy bill and cross-marketing efforts with other Public Service residential energy efficiency products. In addition, the Company will identify "green event" opportunities within the community and provide product collateral as part of the overall marketing plan. Product activity will be monitored on a monthly basis to quickly implement the above strategies, if warranted.

Completed audits and monthly totals are processed and reported in our customer database on a weekly and monthly basis. A quarterly Customer Satisfaction Survey will be put in place to provide feedback on the product offering. The Company will send out an RFP to select a third-party program administer that will manage quality assurance, software training, and overall product administration

Additionally, to confirm the continuing quality of the product, Public Service will implement a quarterly Customer Satisfaction Study to gauge customer satisfaction with their experience with the Home Energy Audit Product, specifically focusing on the independent contractor's performance on certain roles and responsibilities around the audit experience. This will also be used as a tool to monitor auditor performance and to identify any significant changes or trends that may impact the product's success. This market research informs the marketing staff on how the product is delivered, on improvements that may be implemented to provide more information, and gives an indication of potential issues.

E. Product-Specific Policies

In order to qualify for the product, participants must be residential customers living in Public Services' Colorado service area. Infrared Audit customers must be residential customers that

receive natural gas or electric only service with electric heat from Public Service to qualify for participation. Qualifying customers may receive an audit once every three years.

Qualified auditors have a minimum of BPI or RESNET certification and one year of audit experience, or comparable training/in-field experience to provide audit services for this product. Participating auditors will also be required to attend mandatory program training, which will include training on the program modeling software. There will be a $150 per auditor membership fee which will be allocated to the associated costs with software and quality assurance provided by the third party. This one time fee will be paid directly to the software vendor.

Auditors will be required to utilize the scope of work tool within the software to deliver actionable recommendations to the customer. This is a critical part of the program as the program administer will be tracking the conversion rate of audit to improvements completed.

F. Stakeholder Involvement

Public Service collaborates with trade allies such as Energy Efficiency Business Coalition (EEBC), Governor's Energy Office, local communities, and contractors. The product holds regularly scheduled monthly meetings with product partners, City of Boulder, Boulder County, and the City of Denver. We provide updates to interested parties at the DSM Roundtable.

Rebate Levels

To simplify product participation for homeowners and create more energy efficiency business in Colorado, the Company offers the below rebate schedule:

Audit type	**% of cost**
Infrared Audit	60% up to $200 rebate
Blower Door Audit	60% up to$160 rebate
Standard Audit	60% up to $100 rebate

*Rebates amount determined by the average audit cost for the Colorado market.

The Company has moved to this rebate model for several reasons. For example, the subsidized audit model constricted the way the product could be integrated in community programs and contractor business models, which slowed down the customer's actions and overall conversion rate of audit to action. With this new approach we will maintain quality through uniform use of audit software and working with a third party to perform random inspections of auditor's reports.

The Company understands that the actual price for an in-home audit will vary based on the location and complexity of the residence, but the purpose of this product is to provide customers with a straight-forward process to improve their knowledge on energy efficiency and options they have within their home.

In addition to the in-home audits, a free online audit is available on the Xcel Energy website. Instead of paying for an audit that consists of an auditor providing an in-home analysis of the home, customers can use the online Home Analysis tool free-of-charge. The free online audit will not be counted as program participation, but rather a value-added service to the customer that can help

increase lead generation for the in-home audit. The online audit requests customers to enter information on their home: square footage, type of cooling and heating, age of home and family size. This audit takes approximately 10 minutes and offers customers suggestions on how to reduce their energy bill such as adding insulation, replacing old inefficient appliances, maintaining their heating systems, replacing old heating systems, as well as purchasing energy efficient products such as showerheads and compact fluorescent lights. Information on Xcel Energy's energy efficiency programs are listed at the end of the online audit.

➢ DSM Planning & Administration

A. Description

DSM Planning & Administration is an indirect service with internal staff that manages all energy efficiency-related compliance filings, including this Plan, the annual DSM Status Report, and other regulatory filings. This group performs the benefit-cost analyses of all of the energy efficiency and load management products, provides tracking of the energy and demand savings achievements, and collaborates with the Resource Planning group to develop inputs for the resource plans. The DSM Planning and Administration group also provides management and oversight of all evaluation, measurement, and verification planning and internal policy guidance, hosts the quarterly DSM Roundtable meetings and correspondence with the Roundtable members, and works with outside consultants, when needed, to bring outside expertise to our product planning. These functions are needed to ensure a cohesive and high quality DSM portfolio that meets all legal requirements as well as the expectations of Public Service's customers, regulators, and staff.

This service is administrative in nature and is not open to customer participation. However, because this group operates in all of the states where Xcel Energy offers energy efficiency products, we are able to lend consistency and share best practices across all of the jurisdictions.

B. Goals, Participants & Budgets

Goals and Participants
As an indirect service, DSM Planning & Administration does not have savings or participation goals.

Budgets
The DSM Planning and Administration budget is made up primarily of labor and expenses for both internal and external resources. Public Service anticipates that these costs will be relatively constant from 2010 to 2011.

C. Application Process

DSM Planning & Administration is not customer-facing, and therefore, has no associated application.

D. Marketing Objectives, Goals, & Strategy

The DSM Planning and Administration services are not customer-facing, and therefore, have no associated marketing objectives or strategy.

E. Product-Specific Policies

This product has no specific policies.

F. Stakeholder Involvement

Public Service considers its stakeholders for DSM Planning and Administration to be both the internal groups who manage the DSM products and require DSM data, as well as the external governmental agencies and environmental and customer groups who express interest in the design of and strategy for the Company's future DSM products. The DSM Planning and Administration group meets with its external stakeholders regularly through the DSM Roundtable, but also meets with parties at other times as needed.

G. Rebate Levels

There are no customer rebates associated with this service.

➢ DSM Market Research

A. Description

Xcel Energy's Market Research group oversees a variety of research efforts that are used to inform the Company's decision-making concerning DSM. These functions are needed to provide overall support for clarifying DSM issues and for thoroughly understanding current and potential customers. Often, similar information is collected over multiple service territories so that comparisons are possible.

In the 2012-2013 Plan, the Market Research group plans to conduct several projects and studies as listed below.

- *Business DSM Awareness, Attitude & Usage (AAU) Studies [2012]* – Quantitative research to gauge the energy awareness and energy efficient behaviors of Business Public Service customers; ($35,200).

- *Residential DSM Awareness, Attitude & Usage (AAU) Studies [2013]* – Quantitative research to gauge the energy awareness and energy efficient behaviors of Residential Public Service customers; ($35,175).

- *Dun & Bradstreet Business List Purchase [2012 & 2013]* – Quarterly update of firmographic information for existing customer business customers lists to use for understanding, profiling, and targeting marketing efforts; ($60,030 & $63,032).

- *Colorado Home Use Study [2012]* – Quantitative research with Public Service residential customers to gauge appliance saturation; ($42,000)

- *E-Source Membership-Colorado Portion [2012 & 2013]* – Robust repository of secondary and syndicated research resources for national marketing studies, research services, and consulting services; ($79,000 & $82,950).

- *Home Energy Audit Customer Satisfaction Tracker [2012 & 2013]* – Gauge satisfaction with the Home Energy Audit program; ($25,300 & 27,830)

- *Low Income Energy Savings Program Tracker [2012 & 2013]* – Identify and quantify those specific aspects of the customer's relationship with the Company that are critical to Program continuity and satisfaction; ($31,000 & $34,100)

- *Custom Segment Research [2012 & 2013]* – Qualitative and/or quantitative research with selected segments to gauge pressing energy efficiency and load management research questions at that point; (2 studies at $50,000 each)

B. Goals, Participants & Budgets

This is an indirect program and as such, has no estimated energy or demand savings. Participants are based on products participants.

C. Application Process

DSM Market Research is an internal function for the Company. As such, it has no customer application process. However, where appropriate, providers of the larger, more expensive projects will be selected through a competitive bid process. Representatives of the energy efficiency industry will be engaged in this process. Projects will be awarded to vendors who qualify to handle the scope of the project and prove to provide a strong value. The project list will be reviewed at the beginning of each year and may be adjusted to align with current information needs.

D. Marketing Objectives, Goals, & Strategy

As an internal function, the DSM Market Research Program does not have marketing objectives or goals.

E. Product-Specific Policies

This program does not have any specific policies.

F. Stakeholder Involvement

Public Service will rely heavily on the active participation of employees, customers, trade allies, and vendors to successfully execute this research at a high level of integrity, timeliness and cost effectiveness.

G. Rebate Levels

This program does not provide customer rebates.

➢ Product Development

A. Description

The Product Development team identifies, assesses, and develops new conservation and load management products and services for addition to the DSM portfolio. The Product Development process begins when customers, regulators, vendors, or energy professionals submit ideas through the DSM Roundtable Product Development Ideation Form or when Public Service staff submits ideas to Product Development. The Product Development team screens, researches, and evaluates these ideas for inclusion in the portfolio. These products may be added to the portfolio as new measures within an existing product, as a pilot product in need of further testing, or as a stand-alone new product. This work enables Public Service to periodically update its portfolio with promising new energy saving opportunities for its customers.

The Product Development team is split into two groups, those that work on energy efficiency and those who work on load management. The efforts of each group are discussed in further detail below:

1. Product Development for Load Management

The Load Management Product Development (LMPD) group searches for, evaluates, and develops new opportunities that can help improve Public Service's load management products with new offerings and/or technologies.

Examples of New Load Management Technologies and Rate Design

Residential:

- Review and develop advances in air conditioning control strategies software and hardware.
- Identify and develop options for advanced appliance controls and new plug controls.
- Identify new load management communication control systems.

Business:

- Monitor and implement advanced load management control technologies.
- Identify new load management communication control systems.
- Evaluate customer and load aggregation strategies and options.
- Identify energy storage technologies for load management.

2. Product Development for Energy Efficiency

The Energy Efficiency Product Development (EEPD) group is responsible for developing new energy efficiency product offerings. For 2012 and beyond Product Development will be a major contributor in the Company's efforts to achieve its increasing conservation goals. Measures or products are selected for development based on a variety of criteria, including: savings potential, cost of savings, ability to be developed quickly, longevity of the offering (i.e. how long until a technology being rebated becomes the standard), level of market barriers and risk. EEPD also manages the Emerging Technologies Grant Funding technologies, which is described below:

- Emerging Technology Grant

In, 2009, 2010 and 2011, the Energy Efficiency Product Development group began an initiative focused on tracking energy efficiency emerging technologies and providing grant funding to external parties to help fund commercialization of energy efficiency emerging technologies. For 2012 and 2013, Public Service intends to continue this effort by providing grant funding to external parties for development of technologies that are close to commercialization, i.e. those that just need a little push to be considered commercially viable. For each of the years 2012 and 2013, Public Service will fund energy efficiency emerging technology grants with an electric budget of $350,000 and a gas budget of $150,000.

In addition to new product offerings and emerging technologies the EEPD group also explores and investigates new energy efficiency concepts, market transformation opportunities and market approaches as part of our long term DSM strategy. In this plan Public Service will investigate the following concepts:

- Market Transformation with Building Codes
  We will look at opportunities to develop programs that partner with local governments and trade allies to increase understanding and enforcement of more stringent and complex building codes. As part of our investigation we will attempt to address barriers to adoption of codes that are more energy efficient, any potential impacts on free-ridership as a result of meeting and exceeding new codes and standards, and develop a methodology for capturing energy savings attributable to DSM. This may also include researching buildings that have not participated in our Energy Design Assistance program to determine the average rate of code compliance to determine the true baseline of construction in Public Service's territory plus subsidizing code enforcement and classes to increase code compliance.
- Energy Efficiency Financing
  We will explore options for developing cost effective financing programs to provide residential customers access to capital for implementing DSM projects. We will evaluate financing programs offered by other utilities to identify best practices and lessons learned.
- EnergyStar Benchmarking for Business Buildings
  According to the EnergyStar website, "Automated benchmarking is a process for providing electronic access to EPA's Energy Performance Rating System housed in Portfolio Manager. Third parties including energy service companies, utilities, and regional efficiency programs can send energy consumption and building characteristic data to EPA over the Web and receive ENERGY STAR ratings, weather normalized energy use intensity (EUI) benchmarks, and carbon emissions estimates in return." We will evaluate existing commercial building benchmarking programs and tools offered through other utilities in order to determine if it is a viable option for our DSM portfolio.
- EEBC Contractor Training
  As part of Docket No. 10A-554EG Public Service agreed to work with the EEBC to evaluate and develop training of contractors who deliver Company DSM products. This work was to take place over the course of 12 months after the March 30, 2011 effective date of Decision No. C11-0442. As such the evaluation and development won't be completed as of the submission of our 2012-2013 Plan. Based on results a determination will be made whether to develop a program or to terminate it. In either case, a 60/90-Day Notice will be posted to the DSM Roundtable.

B. Goals, Participants & Budgets

Goals and Participants
This is an indirect product and as such, has no estimated energy or demand savings or participants.

Budgets
The Product Development budget was estimated based on actual 2010 costs as well as from historical costs of similar work in other service areas. The Product Development budget also includes the funding described above for the Emerging Technology Grant program. Internal labor for administering and managing these projects is also included in the Administration & Product Delivery category of the budget.

C. Application Process

Product Development is an internal function for the Company. As such, it has no customer application process.

D. Marketing Objectives, Goals, & Strategy

As an internal function, the Product Development Product does not have marketing objectives or goals.

E. Product-Specific Policies

This product does not have any specific policies.

F. Stakeholder Involvement

Public Service will rely heavily on the active participation of employees, customers, trade allies, and vendors to successfully identify and develop new products at a high level of integrity, timeliness and cost effectiveness. Representatives of the energy efficiency industry and other stakeholder groups are engaged in the development process through such channels as the CO DSM Roundtable.

G. Rebate Levels

This product does not provide customer rebates.

➢ Pilot Products

Pilot products, whether direct or indirect, are used to test a new market, technology, or delivery approach using a defined population (usually a specific class or group of customers).[15] They are employed when a new measure or approach is unproven, in order to help inform the decision on whether or not a full-scale product is likely to be cost-effective and desirable. Pilot products must meet the basic product requirements, as applicable for the type of product and implementation state. Additionally, to be considered a pilot product, the product must meet all of the following requirements:

- Temporary in nature
- Offered to a limited subset of customers
- Limited in cost
- Intended to test an unproven technology, delivery approach or market
- Designed to answer the research questions necessary to evaluate possible full-scale launch and incorporation into DSM portfolio

Typically pilot products are developed through the DSM product development process. This process helps ensure that the proposed pilot will fill an identified need and has the potential to become an effective part of the DSM portfolio. Additionally this process ensures that the appropriate internal approvals have been received.

Pilots must include all the information required for a product in a DSM Plan, including:

- Pilot concept, description, and components
- Specific study objectives, methods, and plan for answering each study question
- Pilot deliverables
- Pilot duration including start and end date
- Target population and participant selection method
- Number of participants and explanation of how participants fit into a larger target population
- Detailed evaluation, measurement, and verification plan including methodologies and budget
- Qualifications of contractors or vendors as applicable
- Address whether pilot will claim savings, and if so, include the savings and technical assumptions

[15] Pilots are defined in Docket No.07A-420E, Decision No. C08-0560 pp. 39, 44 and Sundin Direct Testimony, p. 21-22.

➢ *Market Transformation:* Energy Feedback Pilot

A. Description

Residential customer behavior-based energy conservation is a large and untapped source of energy savings for both utilities and their customers. Public Service offers this Market Transformation: Energy Feedback Pilot to quantify how various feedback methods affect residential customer energy usage by providing these customers with different forms of feedback regarding their energy consumption. The feedback communication strategies are intended to result in a permanent decrease in energy usage by inducing changes in the behavior of the end-user and an increased or earlier adoption of energy efficient technologies and energy efficient practices that remain even after the feedback stimulus is removed. The Energy Feedback Pilot will determine when, how, and why customers may change their consumption behavior when provided with information by utilizing energy use feedback modalities and frequencies. The pilot is based on OPOWER's Home Energy Reports feedback system.

This pilot will focus on testing feedback options for energy use with residential customers to better understand what behavior-based energy conservation can be achieved by providing residential customers better feedback on their energy use. The proposed pilot will test various forms, frequencies and contents of feedback including paper reports mailed periodically and emailed reports sent monthly to better understand which works better and why.

Behavior is a key determinant of residential energy use. Past studies have shown that energy use may vary by a ratio of 3:1 in physically identical homes. Both well-designed feedback on energy use and related strategies designed to influence behavior have been found to reduce energy consumption in small research projects over the past 30 years. This project will test promising feedback methods on a large scale to measure their effectiveness in reducing residential electricity and natural gas use, including:

- Periodic feedback coupled with sophisticated communications designed to influence behavior (OPOWER)
- The same periodic feedback supplemented with monthly e-mailed feedback based on data acquired through Xcel Energy's meter data

Key research questions addressed by this pilot are:

- How much will residential electricity and natural gas use be reduced by providing monthly feedback coupled with behavior change techniques such as social norming, goal setting, public commitment, reinforcement of successes, and motivation and recommendations targeted by market segment?
- How much additional savings can be achieved by providing supplemental feedback through e-mail?
- Do the reductions in energy use achieved by providing feedback persist over time?
- Can likely high savers be identified and targeted in advance to maximize product cost-effectiveness?
- How do customers perceive the types of feedback, and what actions (behavioral, low-cost, capital investment) account for the savings achieved?

- Is customer feedback of this type cost-effective?

The persistence of savings from feedback is key to its cost-effectiveness. To assess persistence, this project will provide feedback and monitor results for three years from approximately the second half of 2011 through part of 2014. In past studies by other utilities the product has been run for up to a two-year period with consistent savings delivered throughout the time of the offering. Ongoing measurement of these products continues to be monitored by OPOWER and the participating utilities. This information will be available to Public Service.

If likely high-potential savers can be identified in advance, targeting them can almost certainly increase cost-effectiveness and further research on this would be helpful. Past results indicate that the best indicator for high savings potential is high initial energy usage relative to other similar customers. High users from before the product start have consistently saved more than low initial users in all other tests. This will be further quantified by the Xcel Energy product in Colorado and the Xcel Energy product in Minnesota (Minnesota pilot began December 2009). Based on previous research and currently active pilot projects throughout the country, we expect to measure first year reductions percent of 2% for electricity use and .6% for natural gas consumption. If these savings persist, they can make a significant contribution toward Public Service's goals for energy savings in the residential sector.

Test results will be monitored and quantified after each test year. If evidence is strong that the feedback is working, a permanent product may be started to take advantage of the opportunity for significant savings. Public Service will look at opportunities to discuss partnering with other utilities with overlapping service areas if the test is successful.

B. Goals, Participants & Budgets

Goals and Participants

The goal of this project is to quantify the impact of two different types of feedback on residential electricity and natural gas use, including the persistence of savings over time. Feedback and associated behavior change techniques have been shown to reduce energy use in a number of small, short-term research projects over the past 30 years. This project will test promising feedback approaches on a large scale over several months.

50,000 participants will be randomly selected from Public Service's residential customers. Ten-thousand (10,000) of the customers will require e-mail access as a part of the test of feedback types. Energy savings goals are calculated based on the 40,000 participants receiving the paper reports. If measurable savings are found in the electronic group they will be recorded as savings as well.

Colorado Goals

Year	# Customers*	Status	kWh Goal	Dth Goal
2011	50,000	Start-up (partial year)	Est. 1,791,503	Est. 1,808
2012	50,000	Operational	6,664,853	22,204
2013	50,000	Operational	6,664,853	22,204
2014	50,000	Optional Partial year	Est. 3,500,000	12,000
Totals	**3 Yr Totals**	**Pilot**	**16,829,706**	**56,408**

*Savings calculations based on 40,000 participants receiving paper Home Energy Reports.

Budget

	Start-up 2010	2011	2012	2013
License Fee	$40,000	$250,000	$225,000	$225,000
Print & Mail		$144,375	$170,188	$152,250
Insert		$9,050	$9,050	$9,050
Xcel Labor	$4,000	$16,500	$14,500	$12,000
Xcel Data Set-up		$18,000	0	0
Evaluation			$99,500	0
Promotion/Contingency			$10,000	$10,000
Totals	**$44,000**	**$439,936**	**$530,250**	**$410,313**

*Set up to start program took approx. 6-10 months and began in 2010 with 60-Day notice. Program will run for a few moths into 2014.

C. Application Process

Customer engagement will occur through random selection of 50,000 participants (40,000 in Method 1 and 10,000 in Method 2) and a statistically significant and homogeneous non-contact control group. Customers will be informed of their selection at the beginning of the pilot product and will be offered the opportunity to withdraw from the participant group. The control group customers will never be contacted or influenced by any contact with this study. Our goal is to estimate the impact of large-scale feedback products, so participants will be selected from the general population and recruited in a manner that minimizes self-selection bias. Selected participants will be provided an "opt out" opportunity if they choose not to participate in the pilot project. Appropriate control and comparison groups will allow us to isolate effects attributable to each strategy.

The objective of the pilot study is to establish with sufficient rigor the viability of various feedback methods for sustaining conservation behaviors over time. Public Service will take direct impact energy and demand savings credit for this pilot.

The Feedback Methods figure below illustrates the two feedback methods to be used.

Feedback Methods

	Frequency of feedback	Sample size	Electricity, natural gas or both	Provision of behaviorally optimized information	Additional hardware needed	Applicability to other utilities	Ability to accommodate various rate structures
Method 1	Approx. every two months	40,000	Both	Yes	No	Any	Yes
Method 2	Periodic & e-mail	10,000	Both	Yes	No	Any	Yes

Method 1: Home Energy Reports
Home Energy Reports comprise carefully crafted components designed to work together to drive efficiency gains and maximize engagement. The reports provide customers with contextualized energy use, data-driven insights, and targeted action steps, all leading to a sustainable drop in electricity use. In order to develop targeted messages OPOWER will analyze a vast array of data streams to derive insights about customer segments and individual customers. This data includes historical and meter data, rebate and purchase information, and third-party data, such as housing, demographics (e.g. age, wealth, number of residents in a household), customer usage patterns, past product participation, weather, geography, and more. OPOWER's "Insight Engine" analysis software will continually analyze and tailor messaging based on these evolving customer profiles. Customers will be selected to receive reports on a varying frequency with the average customer receiving over six reports in the first year of the product.

On a monthly basis OPOWER will compile the usage data that has been provided by Xcel Energy and will generate the appropriate analysis to create personalized reports for all 50,000 individuals enrolled in this method. After the personalized Home Energy Reports have been created, they will be printed and mailed in an Xcel Energy-branded envelope to customers.

Following the receipt of the Home Energy Report, customers may choose to call into the call center and talk to customer service representatives about questions regarding their energy usage or to inquire about participation in other products. The representatives will be trained to handle these inquiries and will have access to a special help system that specifically provides support for this energy feedback product. For customers who can benefit, their enrollment in other products or participation in rebates will be handled through the usual Xcel Energy channels.

Method 2: Electronic Delivery of Energy Feedback
The Electronic Delivery method will employ the same Home Energy Report at the beginning of the pilot to engage the customers and to set their expectations about the pilot product. An initial Home Energy Report will be mailed to the 15,000 participants in this method with special information indicating that they have been enrolled in an electronically delivered product. The report will also indicate the email address to which future notifications will be sent. This first report will contain all of the same analysis and recommendations as are found in the reports for Method 1.

Following the initial printed report, the customers assigned to Method 2 will receive a monthly e-mail notification when new data, comparisons, insights, and recommendations have been generated and posted to the online system. This e-mail will contain a link to the online system so customers can log on and view all of the relevant information. Customers will also have the option to log on to adjust their profiles or to view energy data and analysis at any time during the month.

The monthly feedback from OPOWER to be tested requires no new hardware. The feedback report is relatively low cost and incorporates many proven behavior change techniques. The savings achievable by this feedback have been quantified in a number of other utility pilots and products and are consistently measured to deliver 1.5% to 3.5% savings on electricity and 0.5% to 1.5% on annual natural gas usage. Specific results for Public Service in Colorado will be quantified and tracked with this project.

D. Marketing Objectives & Strategy

Customers tracked remain consistent for the entire test period. Energy savings will be counted each year as new savings for an additional one-year life. This is different than the standard conservation product, where a measure gets installed and credit is taken for the multi-year life of that installed measure. A goal of the Energy Feedback pilot is to study the persistence of the behaviors to determine what the true lifetime should be; that is, if or when the incremental savings for the new year become statistically insignificant.

OPOWER will calculate and report savings twice yearly using a comparison of the participant group and the control group as it occurs and only if it occurs.

Public Service will track rebates by customer and account and will subtract the energy saved through these product participations from the Energy Feedback results to prevent double counting. We will also survey participants to see if they have purchased any rebated appliances, CFLs, furnaces etc. that may contribute to the savings. These savings, if measured to be significant, will also be subtracted from the Pilot total to prevent double counting.

E. Product-Specific Policies

Many of the policies for the product are under development and will be determined as needed. These policies will likely be related to:

- Customer selection, volunteers, removal, moving, changes in lifestyle etc
- Customer confidentiality;
- Inquiries about data analytics, methodologies, comparison to history, etc
- Customer requests for help to improve energy use
- Since there are no financial rewards or rebates at this time, these questions will be minimized. We may consider various incentives and rebates in the future to enhance the product performance and/or endurance but we are not proposing them in the pilot.

F. Stakeholder Involvement

Public Service is studying energy feedback products as a result of recommendations from the Colorado DSM Roundtable.

G. Rebate Levels

Rebates are not offered as part of this market transformation pilot product

H. Evaluation, Measurement & Verification

Evaluation, Measurement, and Verification of energy performance is one of the key outcomes for this product. Meter data for all participants, comparison homes and control homes will be file-transferred to OPOWER via secure FTP for continuous analysis and performance reporting. We anticipate seeing sensitivity to our product efforts from this and other promotions reflected in the data from the product. Data will be summarized at least annually and reported.

Savings for the product will be measured compared to a Control Group of approximately 50,000 non-participant customers that are uninformed by any direct action of this pilot.
OPOWER will use the same measurement and verification (M&V) approach that has already provided Xcel in Minnesota and numerous other utilities with reliable performance metrics. Rigorous measurement and verification will help us assess and fine-tune the product's effectiveness, and help ensure that Xcel can accurately document energy efficiency savings for credit.

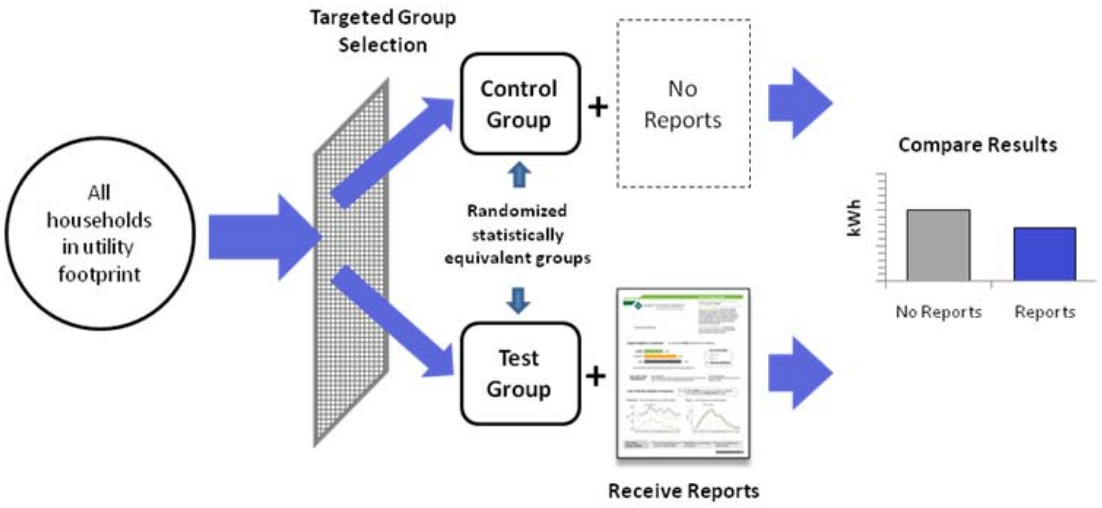
This is a low-risk approach because the results are proven and predictable, but also because they are measured ex-post, so the credit is given for results actually achieved. This is better than some products, which have expected values but no means by which to measure and account after the fact for actual savings achieved.

This M&V approach sets up a test group that receives energy feedback and a separate control group which does not, enabling us to gather information on how consumers are affected by:

- Energy usage in kWh and kW or therms
- Incremental participation in other energy efficiency products

If this Market Transformation pilot does become a product in the DSM Plans in the future, then it will follow the guidelines for market transformation evaluation as set forth in the California Evaluation Framework[16], as market transformation products do not lend themselves to evaluation, measurement and verification in the same manner as a traditional resource acquisition product.

OPOWER's M&V methodology is consistent with the enhanced level of rigor required for direct impact evaluation by the California Public Utility Commission's (CPUC's) Energy Efficiency Evaluation Impact Evaluation Protocols, the National Action Plan for Energy Efficiency, and the American Council for an Energy Efficient Economy. We follow industry-accepted testing methodologies, detailed below, to minimize statistical anomalies. Independent studies by Yale University, the ACEE, and by Summit Blue have verified the methodology and results. The figure below depicts the M&V methodology.



1. Setup Test and Control: Divide targeted population into two statistically equivalent groups.
2. Verify Groups: Verify no historical difference in usage between test and control groups.
3. Deploy Product: Send reports to test group only, no action taken with control group.
4. Measure Impact: Compare average energy use pre- and post-reports for both groups.

M&V Methodology
OPOWER's M&V approach will give Xcel a set of reliable performance metrics.

More simply put, the rough calculation represented in the Compare Results step will be as follows:

- Electric - kWh saved (test group) = kWh used (control group) – kWh used (test group) – kWh saved by rebated equipment (product participation) for the same time period and same customers. kW demand reduction will also be determined.
- Gas - Dth saved (test group) = Dth used (control group) – Dth used (test group) –Dth saved by rebated equipment (product participation) for the same time period and same customers.

Future Energy Feedback Product Development

Public Service believes that in future years we can develop an internal behavioral feedback product that leverages our existing MyAccount platform. It will be necessary to add additional functionality to MyAccount in order to support this new product. We intend to include the cost of this additional functionality in the DSM Plan.

➢ *Market Transformation:* In-Home Smart Devices Pilot

A. Description

The In-Home Smart Device Pilot that began in late 2009 is designed to test how customers respond to various control strategies and energy consumption information delivered to their homes through in-home energy management devices.

Multiple device providers currently participate in the Pilot and it is Public Service Company of Colorado's desire to test a variety of devices and load control strategies to determine which are most effective. Participants are expected to lower their energy consumption when provided with the in-home devices that allow them to monitor and track their energy usage. Participants will receive a combination of in-home devices (package) from the following list, depending upon the device provider and their meter type:

- Utility-controllable programmable thermostat, typically wireless
- Utility-controllable plug-load or hard wired appliance module
- Controller (Gateway) to communicate with thermostat and plug-load modules
- Encoder-Receiver-Transmitter (ERT) meter bridge capability (for customers outside the broadband over power line (BPL) footprint).

Energy conservation through behavioral change is a large and untapped source of savings for both utilities and their customers. Customer behavior is a key determinant of residential energy use and studies show that energy use feedback and related strategies influence behavior by significantly reducing consumption. The intent of the Pilot is to quantify how various devices and feedback methods affect customer electricity and natural gas usage. After the results have been analyzed, Public Service will decide whether to discontinue the pilot or offer it to a broader audience within its service territory. The utilization of technology in conjunction with customer control and choice has the potential to transform the market.

Since the Pilot began in 2009, we have experienced delays reaching the device installation phase due to several factors. Devices must first pass rigorous functional and security testing before they are certified by Public Service. Obtaining in-home devices that meet our functional requirements and pass our testing has been challenging and it is important for these devices to perform as required to ensure they provide the best customer experience and meet our evaluation objectives. Additionally, device providers have found it challenging to integrate their systems with the Company's online account management system (OAM), which is needed in order for customers to access their in-home devices online at the Company's My Account web portal.

In early 2011 and in response to these challenges, the company re-evaluated its functional requirements for this Pilot. We determined integration with the company's OAM web portal would not be necessary if the device provider had an existing web portal that provides a similar experience as the company's OAM. When we removed this requirement for 2011, several device providers submitted systems for testing and certification. As a result, we are now targeting to start the installation phase in the summer of 2011 and complete a majority of these installations by the end of 2011. We anticipate the remaining planned installations will occur in 2012. For this Pilot, we are targeting installation of 1,850 systems in homes within the Boulder area, also known as the

SmartGridCity area, that have smart meters and 400 systems outside this area. Of those 1,850 systems in Boulder SmartGridCity area, 1,264 will be installed in homes of customers who are also participating in the Pricing Pilot. Because of the delays in installation and to enable comparison of price response with and without enabling technology for the same customers, in-home device systems will not be installed in homes of Pricing Pilot participants until after the summer of 2011. The initial focus is on installing device systems in homes of customers who are not Pricing Pilot participants.

Pilot activities for 2012 and 2013 will primarily involve: exercising control strategies, maintaining the devices that have been installed, supporting customers in their use and providing outreach and educational resources to ensure customers gain the maximum benefit. However, some in-home device systems are expected to be installed in early 2012 and this expense is reflected in the 2012 budget.

This pilot was implemented in late 2009 through the 60-Day Notice process and is currently being offered under the 2011 DSM Plan. .

B. Goals, Participants and Budgets

Goals and Participants

Based on previous research and current pilot projects by Xcel Energy and other utilities throughout the country, the company expects in-home devices and controls to produce first year reductions in electricity and natural gas use of two to ten percent. This Pilot is an indirect program that is intended to validate the proposed methods and technologies and determine if there is marketplace acceptance. As a result, Public Service is not claiming any energy and demand savings goals during the Pilot period and will use the Pilot as an opportunity to study and measure the savings generated by the In-Home Smart Device Pilot. Pilot results will be monitored, quantified, and reported upon Pilot completion. If the evaluation results of the Pilot indicate that in-home devices are a valuable and viable energy and demand savings opportunity, the company will consider offering a direct impact product in the future.

Budgets

The expected budget requirements for 2012-13 are primarily related to ongoing maintenance of devices already deployed, customer education and outreach, evaluation costs and possible incentives that may be needed to encourage participation in market research activities. However, some in home device systems are expected to be installed in early 2012 and this expense is reflected in the 2012 budget.

C. Application Process

Public Service residential customers with electric service are able to participate in the Pilot. Participants are accepted on a first-come, first-served basis**.** To participate, customers must have a smart meter within the SmartGridCity footprint (or an Itron ERT meter outside SGC) and central air conditioning that is not controlled via the Saver's Switch Product. Saver's Switch customers wishing to participate will have their Saver's Switch deactivated during the Pilot. Customers must complete an online qualification survey and if qualified, they will be asked to sign an online customer agreement. The customer agreement describes how their data will be used for the Pilot

and what is required of their participation. Once the customer has signed the agreement, they are contacted by a device provider to schedule their installation. Customers will be notified of this Pilot through a consumer education campaign, the SGC web portal and marketing done during enrollment for the Pricing Pilot. Communication methodologies may include e-mail, direct mail, telemarketing, and community outreach activities such as community workshops. Customers outside the SGC footprint will likely be acquired using a targeted telemarketing campaign. The telemarketing firm will be given a randomized list of qualified customers from the Denver Metro area.

D. Marketing Objectives, Goals, & Strategy

The In-Home Smart Device Pilot will offer customers the information and functionality to make behavioral decisions with the potential for year-round energy savings. When recruiting participants within the SGC footprint, the target audience is homes already equipped with a smart meter that also have a working central air conditioning system in the home. Within this target group there are homes that have already qualified for the in-home Pilot either by enrolling online or during the enrollment phase for the Pricing Pilot. Outside of the SGC footprint, we will target customers in the Denver Metro area whose energy characteristics indicate they have and use a central air conditioning system.

Once participants have received their in-home devices and in order to positively impact behavior, it is critical they understand what has been installed and to how to use them in a manner that benefits them. Education and outreach activities will be ongoing throughout the duration of the Pilot.

Public Service will use the following marketing strategies to solicit and educate customers in the Pilot:

- Direct mail and e-mail
- Telemarketing participation drive
- Installation leave behind materials designed to educate participants regarding the portal and device capabilities and options
- XE.com web site designed specifically for participants with in-home devices
- In-Home Device users newsletter
- Community outreach through the onsite mobile experience and information workshops
- Possible incentive for research engagement or participation

The In-Home Smart Device Pilot hopes to address the following questions during the pilot period:

- How much will customers reduce their residential electricity and natural gas use when provided with energy consumption feedback coupled with behavior change techniques?
- How much will customers reduce residential electricity and natural gas demand and energy usage when Public Service is allowed to control the temperature setting on their thermostats?
- What are the technical assumptions per participant (i.e., energy, demand, and natural gas savings per participant, number of hours controlled equipment is operated per year, equipment operation coincidence with peak, etc.)?
- Does the pilot produce sufficient energy and demand savings to make it cost-effective?
- What is the expected lifetime savings from smart device installations and behavioral changes?

- How do customers perceive the various types of feedback, and what actions account for their savings?
- Who is the preferred device manufacturer and what components are most appealing?
- How do customers choose to manage home energy usage via in-home devices?
- Are there comfort issues associated with various load management strategies?
- What level of energy and/or financial savings makes behavioral persistence worthwhile for the customer?

If this Pilot shows substantial energy and demand savings, future projects may test additional strategies that complement feedback, such as community-based social marketing, energy workshops, energy use counseling, home performance audits, and/or alternative rate structures. Results of this test will determine if a future DSM product will be offered.

E. Product Specific Policies

Customers interested in participation will be required to read, agree to, and sign an equipment installation and energy management agreement (Customer Agreement). The Customer Agreement and equipment installation agreement will be administered by the device installer and provided to Public Service along with other required documentation after the installation has been completed. Each participant is allowed one device package per household. By participating in the In-Home Smart Device Pilot, customers agree to allow the Company to test various load control options and strategies. The controls will be limited in time, frequency, duration, and temperature according to the following restrictions:

- Customer loads will be controlled only on weekdays between the hours of 10:00 AM and 8:00 PM.
- Customer loads will be controlled no more than twice per day and no more than three days per week (Monday through Friday).
- Customer loads will be controlled for no more than six consecutive hours per Control Period.
- Customers' thermostats will be adjusted by no more than plus or minus five degrees Fahrenheit during a Control Period.

F. Stakeholder Involvement

The Company has worked closely with device providers, who will provide the following services:

- A PSCo approved device system or package that has met the company's established functional and security test requirements.
- Fulfillment of each request by making arrangements and installing the device package (targeted completion for all devices is early 2012);
- Management of customer inquiries via toll-free telephone number and link to provider's website; and
- Recording of installation data and signed Customer and installation agreements for each participant receiving a device and report monthly to the Company.
- For those device providers who choose not to integrate their systems with the company's OAM web portal, they will provide their own customer facing web portal with similar characteristics and features similar to the company's OAM web portal.

G. Rebate Levels

The In-Home Smart Device Pilot provides the devices and installation services to participants at no cost and does not provide a rebate.

H. Evaluation, Measurement & Verification Plan

Because this is a pilot without claimed savings, it does not yet have Technical Assumptions developed for the control group and proposed pricing structures. Instead, Public Service has contracted with MetaVu and Global Energy Partners to collaboratively measure impacts. Global will be responsible for the analysis and impact estimation, and MetaVu will be responsible for project management and reporting. The following specifies in more detail the approach and tasks that will be performed as part of the impact estimation for the IHSD pilot:

Preliminary Evaluation

The preliminary evaluation will provide initial estimates for the impact of the in-home smart device pilot based on the first summer of the pilot, to the extent possible based on the number of installed sites, using a difference of differences approach. This task consists of the following subtasks:

- Transfer load and survey data from Public Service to Global, then validate and cross-check the data. This will include any available survey or demographic information, the date that participants became active in the pilot, and hourly load data for all customers. Global will then verify that data are available for all customers in the pilot (both control group and participants), and that the data are present for all hours and are internally consistent. Before transferring the data to Global, Public Service will complete their standard load data validation checks and data editing, so that the data are complete, correct, and are consistent with monthly billing data. As part of this subtask, Global will also tie the data from different sources together to ensure consistency and enable the analysis for the remainder of the project.
- Estimate impacts using a difference of differences approach. This approach estimates the impact of the pilot as the difference between the average load shape of the participant group and the control group, corrected for any pre-pilot differences between the two groups.

If there are not a sufficient number of systems installed by the beginning of the summer of 2011, the preliminary analysis will cover a portion of the summer and some of the fall.

Final Evaluation

Using data from both 2011 and 2012, Global will refine the estimates for summer 2011 from the preliminary evaluation, and will estimate the impacts for fall/winter 2011/2012 and summer 2012. This task consists of the following subtasks:

- Estimate impacts using a difference of differences approach for the entire time period. Global and MetaVu will calculate impacts for winter 2011/2012 and the summers of 2011 and 2012 to check consistency between the summers. Global will calculate both the impacts and the related confidence intervals.
- Estimate impacts using a regression approach for the entire time period. A regression approach, such as what was used in Public Service's earlier residential pricing pilot,

accounts for the specific characteristics and appliances of each customer, includes the information about the specific weather on each day, and quantifies how these factors interact to influence the load impact of the pilot. Using a regression model to estimate the impacts will allow Public Service to define the range of impacts that they will see across different customer types and different weather.

- Prepare final report with results for fall/winter 2011/2012, and the summers of 2011 and 2012. Global will provide the final results and descriptions of the methods used to MetaVu for inclusion in the preliminary evaluation report that they will deliver to Public Service.

➢ Electric Vehicle Charging Station Pilot

A. Description

Xcel Energy will begin to see mass market electric vehicles (EV) delivered in Colorado in 2012. Xcel Energy is proposing this pilot to prepare for the arrival of these vehicles. This pilot will provide charging patterns and behaviors, how charging load coincides with Public Service's system peak and how these vehicles may impact the distribution system. Most EVs will come equipped to accommodate charging at Level 1 (Plugging a vehicle into a standard wall outlet with a cord kept in the vehicle, 120V, 15A, 1.4kW) and Level 2 (Plugging a vehicle in to a special EV only connection box with a cord provided from the box with a J1772 plug, 208-240V, 12-80A, 7.2kW). It is expected that most car owners will install level 2 charging for the convenience of the reduced charge time. Controlling Level II EV charging is expected to be a large source of potential demand savings for utilities. Public Service will provide an EV charging credit for customers to participate in if they will be charging an EV with a level II charger. The EV charging pilot will determine when customers are typically charging, how long customers normally charge and how often the charging load is available for Demand Response (DR) purposes during the normal course of activity. The identification of a good coincidence factor during times of Public Service's system peak is critical to the cost-effectiveness of this pilot. The pilot is based on a two way communications devise that is similarly designed to the Saver's Switch normally used to control central air conditioners.

Xcel Energy will install a smart switch type of device adjacent to the charging station to monitor and control the customer's vehicle charging. Xcel Energy will partner with various groups to identify potential participants in the pilot program. During control events Xcel Energy will control the charging device at least 12 times per control season. The customer will be given an annual credit of around $100 and access to the associated data related to the vehicle charging.

Key research questions addressed by this pilot are:

- Monitor residential and commercial charging characteristics and behaviors.
- Identify if the vehicle charging overlaps with the system peak.
- Distinguish a potential strategy for controlling vehicle charging that will minimize the impact to the distribution system.

To assess the Electric Vehicle Charging Pilot, this project will provide monitoring and control results for three years from the control season of 2012 through the control season of 2014.

Test results will be monitored and quantified after each control season. If evidence is strong that the pilot is working, a permanent product may be started to take advantage of the opportunity for savings. Since savings will not be claimed for this pilot, no technical assumptions have been established. One of the main pilot objectives is to analyze the demand savings and establish technical assumptions and cost effectiveness. This, along with customer acceptance, will determine whether the pilot will be proposed as a DSM program offered to a wider set of customers.

B. Goals, Participants & Budgets

Goals and Participants

The goal of this project is to identify the coincidence factor associated with this pilot quantifying the impact of a DR program on an indeterminate EV charging load.

Participants for the pilot will represent all EVs capable of charging at a level II rate. Ideally participants will be selected based on their EV manufacturer from Public Service's residential customers. It would be ideal to have several samples from each vehicle manufacturer to understand any differences between the charging methodologies. Preferential treatment will be given to "Mass Market" vehicles when possible as they will likely represent the future of EV deployments.

Colorado Goals

Year	# Customers	Status	kW Goal
2012	10	Start-up	TBD
2013	15 additional customers	Operational	TBD
2014	15 additional customers	Operational	TBD
Totals	**40 up to 100**	**Pilot**	**TBD**

Budget

	2012	2013	2014
Print & Mail	$2,000	$3,000	$3,000
Switch Costs	$6,500	$9,250	$9,250
Annual Credit	$1,000	$2,500	$4,000
Xcel Labor	$5,000	$1,000	$1,000
Xcel Data Set-up	$3,500	$2,250	0
Promotion/Contingency	$2,000	$2,000	$2,000
Totals	**$20,000**	**$20,000**	**$19,250**

C. Application Process

Customer engagement will occur through vehicle dealership efforts with a modest Xcel Energy Marketing Campaign to gain participation. Participants will be selected from all interested parties based on their vehicle and reception availability at their charging location. Selected participants will be provided an "opt out" opportunity if they choose not to participate in the pilot product. However, they would also be forgoing the annual credit for that control season.

D. Marketing Objectives & Strategy

The primary Marketing objective is to understand how likely are customers to participate in a DR program that will control their level II charging units. There is a possibility that EV customers will not be interested in allowing control of their chargers. The bulk of the saving for a driver to choose an EV is related to the migration from Gasoline to Electricity. The incremental saving from a DR

credit program is not nearly as significant. As with Saver's Switch, the program will be marketed as doing the responsible thing and being a responsible neighbor.

E. Product-Specific Policies

Many of the policies for the product are under development and will be determined as needed. These policies will be related to:

- Customer selection based on vehicle, average driving distance etc;
- Customer confidentiality;
- Commercial participation will require all charging stations to participate in this program;
- Inquiries about data analytics, methodologies, comparison to history, etc; and
- Customer requests for help to improve energy use.

F. Stakeholder Involvement

Stakeholder involvement in the Electric Vehicle Pilot comes through the Colorado Electric Vehicle Strategy Group. The Colorado Electric Vehicle Strategy Group was formed as a collaborative effort between several key professionals and Company representatives. The objectives of the group is to support the success of the electric vehicle market in Colorado.

G. Credit Levels

Credits will include a $100 annual bill credit for participation in this Electric Vehicle Charging Pilot program.

H. Evaluation, Measurement & Verification

Evaluation, Measurement and Verification of energy performance is one of the key outcomes for this product. Charging data for all participants and control periods will be analyzed to understand what a "typical" charging curve looks like for a given participant as well as per type of vehicle. This information will ultimately be used to identify the coincidence factor associated with controlling a level II residential vehicle charger.

All participants will be controlled and monitored via a two-way communication capable demand response control device. The demand response device will be capable of controlling load and will have the capability of recording data every 15 minutes. The demand response device will record the following data: date and time, kilowatts, volts, amps, kilowatt-hours, frequency, and charging events. Data retrieval from all participants will occur on a monthly basis.

In order to simulate a demand response event, at least twelve, 6-hour duration control events during the summer peaking season will be dispatched to determine:

a. Demand (kW)
b. Charging demand (kW) curves
c. Coincidence factor to system peak
d. Duration of charging periods
e. Modeling of localized electric distribution system impacts

➢ Evaluation, Measurement & Verification Plan

A. Description

The Evaluation, Measurement & Verification (EM&V) Plan for Public Service was developed to evaluate, measure, and verify direct savings for electric and natural gas DSM products. All products will be evaluated on an ongoing basis during each year to ensure that the reported savings are as accurate as possible. Select products will be evaluated on a post-performance year basis through comprehensive product evaluations in order to ensure that the net-to-gross ratios that are reported by Public Service are accurate and that the product is operating as effectively as possible. Additionally, the EM&V plan now features a portfolio-wide technical assumptions evaluation in lieu of reviewing assumptions within each comprehensive product evaluation. The robustness of the EM&V Plan is balanced with the costs of the Plan, being mindful of the objectives of ensuring accurate savings while keeping expenditures prudent and maintaining the cost-effectiveness of products. The Company will report any modifications to this EM&V plan in its written quarterly updates. All new products will include a detailed EM&V process consistent with this plan.

The Company's evaluation, measurement and verification approach is separated into performance year and post-performance year activities. The components are listed below and detailed in the following sections. Performance year activities are ongoing during the reporting year while products are being implemented and include rebate application validation and ongoing measurement and verification. Post-performance year activities take place in the years following the performance year and include comprehensive product evaluations and a portfolio-wide technical assumptions evaluation. Comprehensive product evaluations will be staggered over at least the next eight years. The portfolio-wide technical assumptions evaluation will occur during this plan. Table 14 at the end of this program description summarizes each product's EM&V plan.

EM&V for pilot products can differ from the EM&V for prescriptive or custom products since the pilots are being evaluated for market viability. Therefore, additional testing may be necessary, and in some cases, may be specifically designed for a particular pilot. For these reasons, the detailed EM&V plan for pilots are included in each pilot product description, which can be found in the Indirect Products and Services section, Product Development description. These pilots include the Energy Feedback Pilot, the In-Home Smart Device Pilot, and the Electric Vehicles Charging Station Pilot.

Performance Year Measurement and Verification (M&V)

M&V is conducted on an ongoing basis on measures implemented throughout the product performance year. These ongoing M&V activities ensure that rebate application forms contain complete and correct information, the specified equipment is installed, and the claimed gross energy savings are accurate. These performance year activities include:

1. Rebate Application Validation

This validation procedure applies to all electric and gas residential and business products offered in Colorado. The procedure is comprised of the following two steps, both performed by Rebate Operations.

Step 1: Front-End Validation
Rebate Operations reviews all prescriptive business and residential product rebate applications and vendor invoices, including those for indirect impact products. They check the customer information, equipment eligibility and proper rebate amounts. If information is missing or incorrect, the application is sent back to the account representative or customer. For custom products, the staff reviews the project documentation to verify customer information, equipment eligibility, and proper rebate amounts, and then delivers final numbers to Rebate Operations.

Step 2: Daily Audit
Rebate Operations audits all business and residential applications to verify that the information was correctly entered. This is the final review prior to issuing the rebate. If errors or issues are found, they are corrected. The daily audit report is re-run after the problems are corrected and filed for permanent storage.

2. Ongoing Measurement and Verification of Savings
Public Service's ongoing M&V procedures are aligned with utility industry best practices for measuring product results. The Company requires that its contractors follow standard protocols, such as the International Performance Measurement and Verification Protocol ("IPMVP") and the California Evaluation Framework. The following links to some of the common reference materials describe these protocols in more detail:

California Evaluation Framework:

http://www.calmac.org/publications/California_Evaluation_Framework_June_2004.pdf

National Action Plan:

http://www.epa.gov/cleanenergy/documents/evaluation_guide.pdf

The IPMVP can be found in the Products & Services section of the Efficiency Valuation Organization's website at http://www.evo-world.org.

For direct impact prescriptive products, Public Service contracts with third-party verification contractors and product implementers to randomly select samples of business and residential rebates for verification inspections. For some products, such as ENERGY STAR New Homes, Home Performance with ENERGY STAR, and New Construction, the third-party implementer verifies all of the installations to ensure that reported gross savings are accurate. Custom projects are either verified through engineering reviews of savings or through pre- and post-metering depending on the size of the savings.

The following two sections describe the general M&V methods that will be used for prescriptive and custom products. In addition, products that have characteristics requiring an individual and unique M&V plan will be detailed within these two sections.

1. Prescriptive Products:
Prescriptive products use stipulated or deemed technical assumptions that are assigned to measures in order to calculate gross energy and demand savings. The verification activities for prescriptive products will follow a Deemed Savings approach, where the primary goal is to conduct field inspections for a sample of projects to determine that the measures are properly installed and have the potential to generate savings. This approach corresponds to the basic rigor method outlined in

the IPMVP—Option A: Retrofit Isolation: Key Parameter Measurement. Onsite verification activities will confirm energy efficiency measure installation and will allow the inspector to gather enough information to recalculate the energy savings as reported by Public Service for each selected project. Inspection parameters gathered onsite will vary based on the product and sector.

Key parameters (also referred to as savings factors or checkpoints in this document) include the following:

- Installed equipment matches equipment listed on rebate application. For example, as applicable, the contractor will check:
    - Manufacturer
    - Model number
    - Efficiency rating
    - Equipment size, capacity or output
    - Application of measure (e.g. motors that run fans versus pumps versus other mechanical systems)
    - Participant segment (e.g. restaurant versus college versus office building)
    - Quantity (e.g. number of light bulbs)
- Any comments concerning the operation of the fixtures or deviations from the customer application.

For most of the products, the contractor selects a statistically valid number of projects to verify through field inspections or phone surveys. The sample size is designed to achieve accuracy levels of between 10% and 20% given a confidence level of 90% around the "realization rate" and is weighted to select larger projects. The number of randomly selected participants in the sample may increase or decrease during the year in order to ensure that the realization rate accuracy approximates the precision goals for the product. Sampling bias caused by poor response rates and deliberate exclusion of sample projects will be reduced through a quality control process. Rebate forms notify all customers that their respective premises and measures are subject to verification inspections.

The "realization rate" is a calculated value that compares the verified savings to the reported savings. The realization rate for a project is the ratio of the verified savings to the savings reported on the rebate application. The realization rate for the product as a whole is the ratio of the product's total verified savings to the total rebate reported savings. The product realization rate is applied to gross savings to determine gross product impacts. The net-to-gross factor is then applied to the verified gross savings to yield net product impacts.

The general M&V process for the following prescriptive products or prescriptive components of products is outlined below.

Products and/or components that follow prescriptive process:

Business Products

- Compressed Air Efficiency
- Cooling Efficiency
- Heating Efficiency
- Lighting Efficiency

- Motor & Drive Efficiency
- Process Efficiency
- Segment Efficiency
- Small Business Lighting Efficiency

Residential Products

- Evaporative Cooling Rebate
- Heating System Rebate
- Insulation Rebate
- Water Heater Rebate

General Prescriptive Project Process

1. Customer submits rebate application and required documentation to Public Service after measure is installed.
2. Rebate Operations reviews all business and residential product rebate applications and vendor invoices. They check the customer information, equipment eligibility and proper rebate amounts. If information is missing or incorrect, the application is sent back to the account representative or customer to make changes.
3. If project qualifies for rebate, Rebate Operations enters rebate application form data into Siebel or ReCap (rebate tracking database) and authorizes rebate payment. Prior to authorizing rebates, all applications are verified in a daily audit.
4. Public Service sends the Verification Contractor (VC) a list of all of the projects completed in that period on an agreed to schedule.
5. The VC selects a statistically valid sample of projects to inspect. The sample size is designed to achieve 90% confidence with 10-20% precision.
6. VC contacts customer to schedule the inspection or complete the phone survey.
7. VC visits site and verifies the savings factors or checkpoints for that measure.
8. VC inputs the verified savings factors into the calculator spreadsheets to calculate the project's verified energy savings.
9. VC calculates the project's realization rate, which is calculated by dividing the recalculated or verified savings are divided by the reported or rebated savings. At 1.0 or 100%, the verified and rebated savings are equal.
10. VC calculates the product's realization rate, which is the average realization rate of all projects in the product sample.
11. The product's realization rate is applied to the rebate application savings captured in Siebel or ReCap to determine gross verified savings.
12. Net-to-gross factors will be applied to the gross verified savings to determine net savings.

a. Prescriptive Product Exceptions

Products with special design elements are verified using processes unique to the particular product. The unique M&V process for these products is described below.

ENERGY STAR New Homes

The ENERGY STAR New Homes Product is designed to encourage homebuilders to consider a "whole-house" approach to energy conservation when building new single-family or prequalified

multi-family homes. The product is implemented by a third-party contractor in partnership with HERS raters. Each project is verified by a HERS rater prior to issuing a rebate to the builder.

1. Builder contacts HERS rater to express interest in building an energy efficient home and participating in the ENERGY STAR New Homes product.
2. HERS rater works with builder to construct the home to meet or exceed the ENERGY STAR New Homes product requirements. The HERS rater will visit the home during construction to inspect the building method used and the equipment installed.
3. When the home is completed, the HERS rater will perform an air tightness test on the house and then calculate the final HERS index and the energy savings on the house. The HERS rater models the home by entering the individual characteristics into REMRATE, a software product approved by RESNET. The software will generate the energy savings of the home. When the rating of the home is completed, the electronic model for the house is submitted to a HERS provider. RESNET requires that each house be submitted to a HERS provider for quality assurance. The HERS rater may be employed by the provider but must not be the same individual performing the qualify assurance duties for the provider. The provider shall not be the same person that rated the home. The HERS provider will review the file for errors. RESNET requires that HERS providers perform quality assurance on 10% of each rater's building files and fully replicate 1% of the home ratings annually.
4. Once the rater has submitted the final HERS index to Public Service's product implementer, the builder will receive a rebate based on the HERS index achieved, which has a direct correlation to gas and electric savings. There is no rebate application for this product because the final HERS index and supporting information submitted to the product implementer includes the data used to determine each individual home's rebate amount. The product implementer will ensure that all the information entered into the software system is correctly entered, tracked and submitted to Public Service.
5. Public Service will track the home address, meter number, characteristics (home style, square footage, heating and cooling equipment installed), builder name and address, HERS index on modeled homes, blower door test score, gas and electric energy saved, date tested and rebate amount paid.

High Efficiency Air Conditioning

The High Efficiency Air Conditioning (HEAC) Product has three energy saving components that are calculated and rebated separately, including:

1. New Equipment – Purchase of high efficiency equipment.
2. Quality Installation - The proper installation of new standard or high efficiency residential air-conditioning equipment.
3. Trade-Ins- Replacement of low efficiency units with high efficiency units

The M&V processes for the equipment and quality installation components of the HEAC Product are designed to verify that the installed equipment matches what was rebated and that the equipment was installed according to quality installation standards, as described by the Air Conditioning Contractors Association.

The M&V process for the HEAC Product involves ongoing random sampling of rebated projects, following the standard prescriptive product guidelines described above, with the only exception being that the air conditioners will be field inspected between October 1 and September 30 of each year and realization rates will be applied to the calendar year that corresponds to the

September 30 date. For instance, the realization rate established for equipment verified between October 1, 2011 and September 30, 2012 will be applied to the calendar year savings for 2012.

The nature of the quality installation product component results in slight variations to the verification process. To verify a quality installation, the VC must verify that a PSCo approved load calculation was performed and sized properly and that refrigeration charge, airflow and duct leakage are within acceptable ranges. Each component of the savings calculation for the quality installation component will be verified independently. The process for the quality installation component has the following steps:

1. Public Service sends the VC a list of all projects completed in a given time frame and on an agreed to schedule.
2. The VC selects a statistically valid sample of projects to inspect. The sample size is designed to achieve 90% confidence with 10-20% precision.
3. VC contacts customer to schedule the inspection.
4. VC verifies that a PSCo approved load calculation was used to size the equipment.
5. VC visits site and tests the loaded, equilibrium performance of installed air conditioning equipment for proper refrigerant charge and air flows.
6. VC verifies duct sealing by observation of sealing mastic or other ACCA-approved sealing means on accessible joints.
7. VC compares airflow, refrigerant charge, and duct leakage results to the range of values deemed acceptable for the specified equipment.
8. If the actual values are within the acceptable range, the verified savings are considered to be 100% of the rebated values. If the actual values are outside of the acceptable range, the savings will be reduced according to the deviation from the acceptable range. Details on the savings reductions are provided in the Deemed Technical Assumptions sheets.
9. VC inputs the verified savings factors into the calculator spreadsheets to calculate the project's verified energy savings.
10. VC calculates the project's realization rate, which is calculated by dividing the recalculated or verified savings by the reported or rebated savings. At one or 100%, the verified and rebated savings are equal.
11. VC calculates the product's realization rate, which is the average realization rate of all projects in the product sample. The product's realization rate is applied to the rebate application savings captured in ReCap to determine gross verified savings. For purposes of determining and applying the realization rate, the M&V calendar year will run from October 1 to September 30 of each product year. The realization rate determined for this 12 month period will be applied to the product values for the calendar year corresponding to the September 30th date. For instance, the realization rate established for equipment verified between October 10, 2011 and September 30, 2012 will be applied to the calendar year savings for 2012.
12. Net-to-gross factors are applied to the gross verified savings to determine net savings.

Home Lighting & Recycling

The Home Lighting & Recycling Product is designed to increase the sale and use of compact fluorescent light bulbs in our Colorado service territory. Public Service partners with manufacturers and retailers to reduce the retail price of qualifying bulbs and promote them to the retailers' customers.

Public Service tracks the quantity and model number of the bulbs sold through a third party administrator and pays incentives to the manufacturer. Previously, Ace Hardware allowed Public Service to use an instant rebate coupon to capture customer contact and purchase information. Beginning in 2012, Ace Hardware will not longer allow Public Service to use coupons because of increased time and costs associated with administering and processing the coupons. Public Service will continue to track the manufacturer, model number, quantity, wattage and type of the bulbs sold.

Measurement and Validation Process

1. Participating retailers will provide weekly or monthly sales reports listing the model, wattage, type and number of bulbs sold.
2. A third-party administrator will enter the information into a tracking system. The administrator will submit monthly reports containing the data tracked in addition to calculating the average operating hours, and kW and kWh savings.
3. To determine the demand savings, each bulb model will be assigned to one of five groups based on the CFL bulb wattage. A deemed value will be used for the wattage of the incandescent bulb being replaced for each group of bulbs as seen in the table below. The actual wattage of each CFL bulb model will be subtracted from the wattage of the incandescent equivalent to calculate the wattage (kW) saved for each model of bulb.

Deemed Incandescent and CFL-Equivalent Wattages

CFL Wattage Range	Replaced Incandescent Bulb Wattage
9 - 12	40
13 - 16	60
17 - 23	75
24 - 30	100
31 - 52	150

4. The energy savings will be calculated for each bulb based on the demand saved multiplied by hours of operation for all of the bulbs based on the table shown below. It is assumed that each person purchases four bulbs. The Operating Hours will be calculated from the chart below. The chart assumes that each customer already has ten CFL bulbs installed in their house for 2012 and twelve for 2013. This will remain a fixed assumption.

Average Operating Hours of Each Additional CFL Added to a Home

Total Number of Bulbs in the House	Newly Purchased Bulbs 2012 (2013)	Per Bulb Hours	Total Hours for Newly Installed Bulbs	Average Hours of Newly Installed Bulbs 2012	Average Hours of Newly Installed Bulbs 2013
1	-	1210	NA	NA	NA
2	-	1210	NA	NA	NA
3	-	1210	NA	NA	NA
4	-	1210	NA	NA	NA
5	-	1210	NA	NA	NA
6	-	1027	NA	NA	NA
7	-	1027	NA	NA	NA
8	-	1027	NA	NA	NA
9		1027	NA	NA	NA
10		888	NA	NA	NA
11	1	888	2803	888	NA
12	2	864	3667	876	NA
13	3 (1)	864	4531	872	864
14	4 (2)	864	5395	**870**	864
15	5 (3)	864	6259	869	864
16	6 (4)	864	7123	868	**864**

5. The third-party validation contractor will audit the database output by examining and comparing against the Retailer sales reports. The validation contractor will adjust Watts/Bulbs if errors are found and provide the final verified total kW for all bulbs for year-end.

Home Performance with ENERGY STAR

The Home Performance with ENERGY STAR Product is designed to take a whole house approach to improving the energy efficiency of existing single-family homes. Contractors will have their first five completed projects inspected and then ten percent of their completed projects thereafter. The project must be successfully completed prior to issuing a rebate to the customer.

1. Customer completes a Public Service home energy audit with blower door test.
2. Customer submits product application form.
3. Within one year of enrollment in the product, the customer installs the required measures. Depending on the number of the contractor's completed projects the contractor either tests out or contacts the Home Performance provider to schedule a final verification inspection.
4. During the verification inspection the Home Performance provider or contractor performs a blower door and a Combustion Appliance Zone (CAZ) test after verifying the homeowner has performed all of their planned energy efficiency improvements.
5. When the inspection is completed, the Home Performance provider or contractor will submit a rebate form to the Xcel Energy processing team along with copies of invoices for all of the

completed improvements. The rebate is then processed and the check is issued within four to six weeks.

Low-Income Energy Savings Kit
The Energy Savings Kit Product provides a bundle of home energy efficiency measures and educational items in a kit that can be distributed to low-income customers through local low-income agencies. A third-party product implementer manages the kit fulfillment and another third party will complete follow-up phone surveys to a sample of participants to confirm whether the unit was installed. Through the survey results the third party determines the installation rate, which we then apply to the gross savings for the calendar year.

Low-Income Single-Family Weatherization
The Single-Family Weatherization Product offers standard payments to the product implementer for the installation of specific, predetermined energy efficiency measures. Savings from the measures are based on deemed savings values and include measures such as wall and ceiling insulation, furnace replacements, refrigerator replacements and compact fluorescent lighting. Verification is built into the product design, as the contracted weatherization agency actually installs the measures. The specific product process, including verification, is outlined below.

1. Program implementer guides income-qualified customer to sign up for weatherization services through contracted weatherization agency.
2. Weatherization agency arranges for a weatherization crew to visit the customer's home to identify savings opportunities.
3. The crew returns to the home within 14 days to implement the identified measures.
4. The contractor submits documentation of the measures that were installed to the implementer.
5. The implementer submits this documentation to Public Service along with a request for payment for the installed measures.
6. Public Services issues payment for the installed measures.

Low-Income Multi-Family Weatherization
The Multi-Family Weatherization Product offers payments to the product implementer for the installation of energy efficiency measures. This product differs from the Single-Family Weatherization Product in that deemed savings are not used to determine savings. Instead, an auditor visits the facility, analyzes the savings opportunities and calculates savings. Verification is built into the product design, as the contracted weatherization agency actually installs the measures. The specific product process, including verification, is outlined below.

1. Income-qualified customer signs up for weatherization services through product implementer.
2. Product implementer arranges for the contracted consultant to visit the home and identify savings opportunities.
3. Consultant produces an audit report outlining savings opportunities and potential savings.
4. Public Service engineer reviews project and has 10 days to approve or deny the report.
5. Product implementer arranges for the weatherization crew to install measures approved by Public Service.
6. Product implementer arranges for the contracted consultant to visit the home to verify measure installation and calculate final savings.
7. Contracted consultant submits completed audit report with final savings to the implementer.

8. The implementer submits this documentation to Public Service along with a request for payment for the installed measures.
9. Public Services issues payment for the installed measures.

Low-Income Non-Profit Energy Efficiency
The Non-Profit Energy Efficiency Product provides funding for energy efficiency retrofit improvements to qualified non-profit organizations within the Company's service territory. Verification is built into the product design, as the contracted weatherization agency actually installs the measures. The specific product process, including verification, is outlined below.

1. Income-qualified customer signs up for weatherization services through product implementer.
2. Product implementer arranges for the contracted consultant to visit the building and identify savings opportunities.
3. Consultant produces an audit report outlining savings opportunities and potential savings.
4. Public Service engineer reviews project and has 10 days to approve or deny the report.
5. Product implementer arranges for the weatherization crew to install measures approved by Public Service.
6. Product implementer arranges for the contracted consultant to visit the building to verify measure installation and calculate final savings.
7. Contracted consultant submits completed audit report with final savings to the implementer.
8. The implementer submits this documentation to Public Service along with a request for payment for the installed measures.
9. Public Services issues payment for the installed measures.

Computer Efficiency - Upstream Incentives
The Computer Efficiency Product offers incentives to desktop personal computer (PC) manufacturers and low-end server manufacturers that produce and sell PCs with high efficiency power supplies to business customers in Xcel Energy's Colorado electric service territory. A third-party product implementer manages the tracking of these shipments of qualifying units into our service territory and another third-party will complete follow-up phone surveys to a sample of participants to confirm whether the unit was installed or returned. The third-party determines the installation rate from the survey results, which will then be applied to the gross savings for the calendar year.

For incentives to customers who install virtual desktop infrastructure (VDI) a third party verifier will conduct field inspections for a sample of projects to determine that the measures are properly installed and have the potential to generate savings. This will follow the standard M&V process of prescriptive products.

Saver's Switch
Saver's Switch is a demand response product that offers bill credits as an incentive for residential customers to allow Public Service to control operation of their central air conditioners on days when the system is approaching its peak. Public Service's load research organization leads an annual research project to evaluate the load relief achieved from installed Saver's Switch units. The team contracts the data gathering and most of the analysis to a third-party consultant that specializes in load research projects. A sample of each type of switch is included in the annual research project. This is done with a data logger installed onsite to monitor the air conditioner's energy use and how

that use changes on a control day. The results are used to document the extent of load relief achieved during a control day.

School Education Kits
School Education Kits is a turnkey product designed to provide households with information and equipment to realize immediate energy savings. The third-party product implementers issue the kits and complete follow-up surveys to a sample of the participants to confirm and track if the equipment was installed. An installation rate is applied to the gross savings for the calendar year.

Refrigerator Recycling
The Refrigerator Recycling product is designed to reduce energy usage by allowing customers to dispose of their operable, inefficient secondary refrigerators in an environmentally safe and compliant manner. On a bi-weekly basis, our recycling vendor is sent an updated customer database, which includes all qualifying customers and their information for verification. Customers call the vendor directly to sign up for the product, schedule an appointment, and are verified with the customer database. The vendor sends monthly reports to Public Service of all customers who participated in the product, which are uploaded into the internal customer database. The VC periodically receives a report of participating customers. The VC conducts a phone survey to verify removal of refrigerator and that the refrigerator was operable at time of removal.

2. Custom Products:
Custom products use technical assumptions that are specific to the actual measure characteristics in order to calculate the energy and demand savings. For all Custom projects, an internal engineer (or an outside firm) determines in the preapproval stage the demand and energy savings using technical assumptions specific to each measure. Senior and managing engineers will audit the preapproval calculations for all projects, as outlined in Step 4 of the General Customer Project Process. In addition, a random sample of all preapproved projects completed by Public Service associate engineers will be sent to an outside engineering firm for review, as shown in Step 5. All Custom projects must have the "Verification" section of the application completed and signed by the Account Manager and customer in order for the project to be approved, completed and forwarded onto Rebate Operations for a rebate check issuance. Account Managers or Business Solutions Representatives either field or telephone verify the installation of equipment, removal of old equipment, and collection of the invoices. The rebate is not paid until the savings are verified.

All projects with measure savings greater than or equal to one GWh or 20,000 Dth require enhanced rigor measurement and verification methods. Enhanced rigor can involve end-use or whole facility metering or engineering and building simulation models, which correspond to IPMVP options B, C, or D. These projects require a detailed M&V plan, outlining the scope and methods of the M&V activities at the specific facility. The methods, such as pre and post- metering, will be aligned with the appropriate IPMVP options. The duration of the metering will vary depending upon the load variability, or project complexity, but at a minimum will be two weeks of metering pre and post-installation. If metering is too costly or physically impossible, engineering modeling or building simulation modeling may be substituted. Metering may also be used to verify savings of smaller projects depending on the engineer's assessment of the uncertainty around the savings.

The general Custom project approval process is described below and applies to the following products**:**

- Compressed Air Efficiency
- Cooling Efficiency
- Custom Efficiency
- Data Center Efficiency
- Energy Management Systems
- Heating Efficiency
- Lighting Efficiency
- Motor and Drive Efficiency
- Process Efficiency
- Segment Efficiency

General Custom Project Process

Project Identification

1. Project identification and scoping.
2. Customer submits preapproval application to Public Service.

Preapproval

3. Public Service engineer (or outside engineering firm) reviews the application and calculates the energy and demand savings based on the technical assumptions specific to that measure and the resulting rebate.
4. Public Service engineers review the calculations, regardless of whether internal or external engineers completed Step 3.
   a1 For small projects <0.05 GWh or <2,000 Dth, a Public Service engineer (or outside engineering firm) will perform Step 3 and that will/may be the final review and approval.
   a2 For projects 0.05-.5 GWh or 2,000 to 10,000 Dth, a senior engineer must review and approve.
   b For projects 0.5-1 GWh or 10,000 to 20,000 Dth, a senior engineer and managing engineer must review and approve.
   c For projects >1 GWh or >20,000 Dth, a senior engineer, managing engineer and the engineering team manager must review and approve.
5. Public Service selects a random sample of committed projects and sends this list to an outside engineering firm (if Public Service associate engineer performed Step 3) to review the calculations.
   a. For projects <0.5 GWh or <10,000 Dth, 10% of projects are sampled
   b. For projects 0.5-1 GWh or 10,000-20,000 Dth, 25% of projects are sampled
   c. For projects >1 GWh or 20,000 Dth, 100% of projects are sampled at preapproval.
6. If the outside engineering firm disagrees with the Public Service engineer's analysis, they discuss the project and reach consensus on the calculations.
7. Public Service sends out a preapproval or rejection letter stating the preapproved demand and energy savings along with the rebate amount.

Monitoring

8. If monitoring will be needed, a Public Service engineer or outside engineering party drafts an M&V plan. The plan is finalized by the Public Service engineer and sent out for customer review and signature.
9. If the customer does not have the appropriate meter structure, an outside engineering firm will install metering equipment and collect the pre-data as set forth in the monitoring agreement. The pre-data is sent to the Public Service Engineer.
10. After the designated pre-monitoring period, the customer completes the project installation and contacts account manager.
11. Outside engineering firm collects post-installation monitoring data and sends post data to Public Service.

Site Verification

12. For managed accounts, the customer's account manager confirms project installation, which may include visiting the site and reviewing invoices and other project documentation. The project documentation is then submitted to Public Service DSM Marketing staff.
13. Currently, most customers completing custom projects have an account manager. For non-managed customers completing custom projects, the Business Solutions Center and Public Service DSM staff will review project documentation, including checking the customer information, equipment eligibility and proper rebate amounts.

Approval & Rebate Payment

14. For non-monitored projects, the invoices are reviewed and if the installed measure specifications match the proposed measure specifications the preapproved rebate is awarded. If the costs vary by + or - 10% or the scope changed, the project is reevaluated (return to Step 3).
15. For monitored projects, Public Service engineer (or outside engineering firm) determines actual savings based on monitoring results.
16. For monitored projects, if the Public Service engineer performs Step 3, 100% of projects will be sent to the outside engineering firm for review.
17. If the outside engineering firm disagrees with the Public Service engineer's analysis, they discuss the project and reach consensus on the calculations.
18. Rebate is issued to the customer based on final savings as determined by post-M&V results.
19. Project savings are reported in the year that the rebate is awarded.

b. Custom Product Exceptions

Products with special design elements are verified using processes unique to the product. The M&V process for these products is described below.

New Construction- Energy Design Assistance & Energy Efficient Buildings

The Energy Design Assistance component of the New Construction Product provides design assistance in support of integrated design process by providing computer modeling of the planned design, funding to offset the cost of design time associated with the increased energy analysis, financial incentives to improve the cost effectiveness of a package of energy efficient measures, and field verification to ensure that the strategies are installed per the design intent. Public Service

contracts with a third-party product implementer to complete the energy modeling and measurement and verification. The rebate is not paid until the savings are verified.

1. Application submittal.
2. Introductory meeting with design team.
3. Consultant completes energy modeling to identify conservation packages.
4. Construction documents are reviewed for measures identified through the energy model. The design team and customer are notified whether or not these measures were found within these documents.
5. Consultants provide Public Service with a verification plan per project.
6. Consultant visits site and verifies that specified measures were installed. Equipment and systems are monitored for a two week timeframe, as appropriate, to evaluate performance variables against modeling assumptions.
7. For projects with individual measures that have savings greater than or equal to 1.0 GWh or 20,000 Dth per year, data logging is required for a time period of four weeks.
8. The actual results are compared to the estimated savings to determine the final rebate.
9. If the actual results are not within 15% of the energy savings identified within the previous model, the consultant completes an as-built model to determine final energy savings.
10. Rebate is issued to customer based on final savings.

The Energy Efficient Buildings component of the New Construction Product provides an opportunity for customers to review their new construction, major renovation or additions measures before the building is built. Since each building is unique and includes various conservation opportunities, each building will receive:

1. Review of construction documents compared to application submitted.
2. Consultant visits site and verifies that specified measures were installed.
3. For projects with individual measures that have savings greater than or equal to 1.0 GWh or 20,000 Dth per year, data logging is required for a time period of four weeks.
4. Final results are determined based on data logging and verification.
5. Rebates are issued to customer based on final savings.

Recommissioning

The Recommissioning Product identifies existing functional systems that can be “tuned up” to run as efficiently as possible through low- or no-cost improvements. The rebate is not paid until the savings are verified. Metering Recommissioning projects may be very difficult. In these cases, a combination of metering and calculations may be used.

Study Preapproval

1. Customer hires an engineering firm to conduct a study of the building to identify savings opportunities and determine energy savings for each measure. Approved customers may perform their own measure analysis and/or use our recommissioning calculator tool with standard savings calculations.
2. Customer submits application and proposal from recommissioning provider to Public Service for study preapproval.
3. After preapproval, recommissioning provider or customer can begin study.

Study Approval

4. Completed study is submitted to Public Service for review.
5. Public Service engineer reviews all savings calculations and identifies if any individual measures will require monitoring (measure savings > 1 GWh or 20,000 Dth).
6. If monitoring is needed, Public Service will send out general monitoring letter alerting customer that one or more measures will require monitoring.
7. Public Service follows up (generally within 7 business days) with a detailed M&V plan that the customer must sign.
8. If study is approved, the provider will present study to customer and Public Service issues study rebate.
9. If study is not approved, Public Service will follow up with provider or customer to reconcile issues.

Implementation

10. Customer selects measures.
11. If measure requires monitoring, customer must contact Public Service. Public Service will notify verification contractor that monitoring is needed. Pre-monitoring must be completed prior to measure installation in accordance with the M&V plan.
12. Customer implements selected measures. If monitoring is required, customer contacts account manager, who contacts the Public Service engineer. Public Service will notify the verification contractor that the customer is ready for post-monitoring.
13. For measure savings > 1 GWh or 20,000 Dth, post-monitoring is conducted in accordance with the M&V plan.
14. Post-monitoring data is submitted to Public Service engineer for analysis and determination of final savings and rebate amount.

Approval & Rebate Payment

15. Account manager collects invoices and signed form identifying which measures were installed.
16. The invoices are reviewed and if the invoice details match what was submitted on the rebate form, then the preapproved rebate is awarded. If there are discrepancies, the account manager works with the customer to provide additional detail and reconcile differences.
17. Rebate is issued to the customer based on final savings.

Self-Directed Custom Efficiency

The Self-Direct Product will provide large commercial and industrial electricity customers in Colorado the opportunity to self-fund energy conservation projects at their facilities. Customers who engineer, implement, and commission qualifying projects will receive rebates to offset their costs to implement efficient projects.

1. Public Service prequalifies customers who are eligible for participation in the Self-Direct Product.
2. Once prequalified, a customer identifies the opportunity, then develops and submits a project application. The customer will be required to develop an evaluation, measurement, and verification plan and submit it with the application. Specific components of the plan will be determined by the customer, and agreed upon by Public Service. At a minimum, the plan should employ sound engineering judgment and follow standard industry practices such as the International Performance Measurement & Verification Protocol.

3. Public Service provides confirmation of application receipt, reviews the application, and asks for additional information if necessary. Public Service notifies the customer of approval or denial of the application, expected rebate, and mutually agreed on M&V plan. The Customer can request a meeting to discuss Public Service's decisions related to the application.
4. If the customer chooses to implement the measures, they sign a letter, which includes an M&V plan, stating that they intend to implement the preapproved measures. After the customer signs their letter of intent, they must conduct any pre-installation monitoring required in the M&V plan, and submit the data to the Company. The Company must approve this data before the customer may implement the efficiency measures. The customer then implements the measures and performs follow-up monitoring as described in the M&V plan.
5. The customer then submits a project completion report. Public Service will review the report, request any additional data, and calculate the final rebate. The rebate will be paid by check upon completion of project and Public Service's approval of project completion report.
6. A random sample of all preapproved projects will be selected by the Company and sent to an outside engineering firm for metering and verification.

Standard Offer

The Standard Offer Product is intended to serve customers with limited financial and human resources who have conservation potential. The product will offer funding for customers to receive a technical energy audit and provide rebates to help offset the cost of implementation. The audit is typically performed by an Energy Service Company (ESCO), but also may be performed by the customer. It will provide the customer with a final report detailing the energy conservation opportunities, financial analysis, and potential funding mechanisms.

1. The customer fills out an application to initiate the process and to receive preapproval for the project. As part of the application process, the customer either selects an ESCO to perform the technical energy audit or decides to perform the audit internally.
2. If the customer is using an ESCO to perform the technical energy audit, a contract to perform the audit is signed by the ESCO and the customer.
3. The draft technical energy audit, including identified energy conservation measures is submitted to Public Service, reviewed by all applicable parties, and discussed to determine which measures will be implemented.
4. The technical energy audit is revised to reflect measures to be implemented, finalized, and submitted to Public Service. Public Service determines the project implementation rebate.
5. If the customer is using an ESCO to implement the measures, a construction contract is executed between the ESCO and the customer. If the customer is not using an ESCO to implement the measures, a letter of intent to implement the measures is signed by the customer and Public Service.
6. Public Service issues technical energy audit study rebate.
7. Initial M&V activities are performed, the measures are implemented, follow-up M&V activities are performed, and the customer sends their rebate application (including M&V

data and calculations) to Public Service.

8. Public Service verifies the implementation, determines actual savings from normalized data, and issues the measure implementation rebate based on the M&V results.
9. Annually, the ESCO or a third-party performs M&V and submits data and results to the customer, Public Service, and GEO. Public Service reviews the M&V report to confirm the annual savings and verifies that savings are appropriate to rebate paid. Additional rebates are paid for performance above the rebated conservation; alternately, the customer refunds rebates if the actual savings are below the originally rebated savings.

3. Post-Performance Year Product Evaluation, Measurement and Verification
Post-performance year evaluation, measurement and verification refers to efforts in the years following the product year to verify savings and update technical assumptions.

Comprehensive Product Evaluations
In addition to the ongoing measurement and verification described in the plan, Public Service will hire independent third-party consultants to complete comprehensive evaluations for specific products each year. The comprehensive product evaluations will be staggered over a number of years. The principal purposes of comprehensive product evaluations are to assess customer satisfaction with the DSM product being evaluated and to assess changes that should be made to net-to-gross (NTG) ratios and product processes based on the evaluator's own research as well as a thorough review of industry-wide and the Company's current processes and NTG ratios. When considering the evaluation's recommendations, Public Service will follow the guidance from Decision No. C11-0465, which gives Public Service the discretion to make changes to its DSM programs that are reasonable, cost-effective, and timely; as well as to reject suggested changes that are flawed[17]

Factors that are taken into consideration in determining the priority and schedule of product evaluations include, but are not limited to: product tenure in Colorado, amount of savings relative to total goals and per participant, product budgets compared to total, uncertainty and/or risk associated with savings or technical assumptions, availability of other studies regarding the particular measures, etc. Discussions with portfolio managers, product developers, and technical consultants are used to finalize the priority and schedule of evaluations.

The list below shows the products that are scheduled for comprehensive evaluations to be completed in 2012 and 2013. The Residential ENERGY STAR Retailer Pilot evaluation that was postponed to 2012 is now cancelled as the program was eliminated from this plan.

This schedule will be reviewed at the beginning of each year and may be adjusted based on costs, scope and need.

2012 Comprehensive Evaluations
Home Performance with ENERGY STAR
Business Process Efficiency Product

[17] Order addressing application for rehearing, reargument, or reconsideration and motion for extension of time to file 2012-2013 DSM Plan. Docket No. 10A-554EG, Order No. C11-0465, Pages 6 – 7.

2013 Comprehensive Evaluations
Low Income Energy Savings Kit Product
Business Compressed Air Product
Business Segment Efficiency Product

Portfolio Technical Assumptions Evaluation
Historically, Public Service reviews and updates technical assumptions at the beginning of every filing in addition to adopting the recommendations from the comprehensive product evaluations. However, it is believed that both Public Service and its customers will be better served if there is a more robust approach.

Therefore, Public Service will replace the technical assumptions portion of the comprehensive product evaluations with a Portfolio Technical Assumptions Evaluation.
Public Service will hire a third-party evaluator to examine the technical assumptions, inputs, baselines, and calculators used across the entire program portfolio in both Colorado and Minnesota, with each service territory paying for their respective portion of the Evaluation. The Evaluation will focus on prescriptive deemed measures and will include recommendations for upcoming plans. The benefits of the approach include:

-Provides a more consistent view as one evaluator is involved
-Anticipated cost effectiveness when compared to current product-specific evaluations
-Limits redundancies
-Minimal impact on internal resources

The Portfolio Technical Assumptions Evaluation will be completed over the course of the two-year plan and should be completed no more than every three years considering the availability and pace of changes that impact this environment. When considering the evaluation's recommendations, Public Service will follow the guidance from Decision No. C11-0465, which gives Public Service the discretion to make changes to its DSM programs that are reasonable, cost-effective, and timely; as well as to reject suggested changes that are flawed[18]

B. Goals, Participants & Budgets

Goals and Participants
This is an indirect product and as such, has no estimated participants or energy or demand savings.

Budgets
EM&V is budgeted in the following ways:

1) Rebate validation: Internal labor is charged to the individual product's Administration and Product Delivery costs.
2) Ongoing M&V: Most outside contractor costs will be charged to the individual product's M&V costs and are not included in the general budget of Measurement & Verification under the Indirect Products and Services section. Budgets for these activities were forecasted at between 3 to 5% of the respective product total budgets. Ongoing M&V costs that are

[18] Order addressing application for rehearing, reargument, or reconsideration and motion for extension of time to file 2012-2013 DSM Plan. Docket No. 10A-554EG, Order No. C11-0465, Pages 6 – 7.

budgeted in the “Measurement &Verification” category are general charges from the third party contractors for database development, data tracking, and reporting.

3) Comprehensive Product Evaluation studies: Outside Consultant costs are budgeted in the “Program Evaluations” category of the budget under the Indirect Products and Services section. These costs were budgeted based on proposals from current Evaluation contractors and past study costs.
4) Internal Xcel Energy labor that is used to oversee and administer the ongoing M&V products and the comprehensive product evaluations are charged to the respective Measurement & Verification budget or the Program Evaluation budget.

C. Application Process

There is no application process associated with this product.

D. Marketing Objectives, Goals, & Strategy

Evaluation, Measurement & Verification does not have marketing objectives or goals.

E. Product-Specific Policies

This product does not have specific policies.

F. Stakeholder Involvement

There are no stakeholders associated with this product.

G. Rebate Levels

The Evaluation, Measurement & Verification does not pay rebates.

Table 14: Measurement and Verification Summary By Product

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Business Electric:				
Compressed Air Efficiency		Direct/Custom	Projects <1 GWh savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification if PSCo engineers complete analysis. Account Manager or Business Solutions Center verifies project installation and collects equipment invoices. Project >=1 GWh savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
		Direct/Prescriptive	Prescriptive rebates available for Variable Frequency Drive Compressors that are less than 50 hp and have no air loss drain valves. Verification Contractor selects random sample and performs field inspections of deemed savings factors -- e.g. size of compressor and number of drains.	
Computer Efficiency	Virtual Desktop	Direct/Prescriptive	Verification Contractor selects random sample and performs field inspections of deemed savings factors -- e.g. equipment type, model of equipment, building type. Information gathered for a sample of VDI devices and extrapolated to total population.	
	Upstream Incentives	Direct/Prescriptive	Verification Contractor selects random sample & performs phone survey of deemed savings factors -- e.g. did the customer receive the product and was it installed or returned. If returned were incentives returned as well.	
Cooling Efficiency	Cooling Efficiency Custom	Direct/Custom	Projects <1 GWh savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification if PSCo engineers complete analysis. Account Manager or Business Solutions Center verifies project installation and collects equipment invoices. Project >=1 GWh savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
	Cooling Efficiency Prescriptive	Direct/Prescriptive	Verification Contractor selects random sample and performs field inspections of deemed savings factors; e.g. equipment type, size, efficiency, climate zone and building type.	

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Custom Efficiency		Direct/Custom	Projects <1 GWh savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification if PSCo engineers complete analysis. Account Manager or Business Solutions Center verifies project installation and collects equipment invoices. Project >=1 GWh savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
Data Center Efficiency		Direct/Custom	Projects <1 GWh savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification if PSCo engineers complete analysis. Account Manager or Business Solutions Center verifies project installation and collects equipment invoices. Project >=1 GWh savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
Energy Management Systems		Direct/Custom	Projects <1 GWh savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification if PSCo engineers complete analysis. Account Manager or Business Solutions Center verifies project installation and collects equipment invoices. Project >=1 GWh savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
Lighting Efficiency	Lighting Efficiency Custom	Direct/Custom	Projects <1 GWh savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification if PSCo engineers complete analysis. Account Manager or Business Solutions Center verifies project installation and collects equipment invoices. Project >=1 GWh savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
	Lighting Efficiency Prescriptive	Direct/Prescriptive	Verification Contractor selects random sample and performs field inspections of deemed savings factors -- e.g. number of fixtures, equipment type, building type, existence of air conditioning. Information gathered for a sample of lamps/fixtures and extrapolated to total population.	

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Motor & Drive Efficiency	Motor & Drive Efficiency Custom	Direct/Custom	Projects <1 GWh savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification if PSCo engineers complete analysis. Account Manager or Business Solutions Center verifies project installation and collects equipment invoices. Project >=1 GWh savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
	Motor & Drive Efficiency Prescriptive	Direct/Prescriptive	Verification Contractor selects random sample and performs field inspections of deemed savings factors -- e.g. horsepower, efficiency, type, speed, application, building type, and use of motor. For VFDs, size, speed, type, application and use of motor drive, and building type. If more than 10 motors, information will be gathered for a sample.	
New Construction	Energy Efficient Buildings	Direct/Custom	Consultant visits site and verifies that specified measures were installed. Projects with individual measure savings >= 1 GWh savings: Four weeks of data logging verifies savings.	
	Energy Design Assistance	Direct/Custom	Consultant visits site and verifies that specified measures were installed. Equipment and systems are monitored for a two week timeframe, as appropriate, to evaluate performance variables against modeling assumptions. Projects with individual measure savings >= 1 GWh savings: Four weeks of data logging verifies savings. All projects verified with actual results not within 15% of the energy savings identified in the original model will have an as-built model completed for rebate calculations.	
Process Efficiency	Process Efficiency - Prescriptive	Direct/Prescriptive	Verification Contractor selects random sample and performs field inspections of deemed savings factors specified for applicable end use product.	
	Process Efficiency - Custom	Direct/Custom	Projects <1 GWh savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification if PSCo engineers complete analysis. Account Manager or Business Solutions Center verifies project installation and collects equipment invoices. Project >=1 GWh savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
Recommissioning		Direct/Custom	Customer hires an engineering firm to conduct study of building and to determine energy savings for each measure. Internal energy efficiency engineers reviews and verifies that savings calculations are accurate for 100% of projects. For measures over 1 GWh of savings, pre and post metering is required to verify savings, if feasible. For projects that are very difficult to meter, a combination of metering and calculation may be used.	

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Segment Efficiency	Segment Efficiency - Prescriptive Lighting	Direct/Prescriptive	Same as Prescriptive Lighting Efficiency	
	Segment Efficiency - Prescriptive Motors/Drives	Direct/Prescriptive	Same as Prescriptive Motors & Drive Efficiency	
	Segment Efficiency - Prescriptive Cooling	Direct/Prescriptive	Same as Prescriptive Cooling Efficiency	
	Segment Efficiency - Custom Lighting	Direct/Custom	Same as Custom Efficiency	
	Segment Efficiency - Custom Motors/Drives	Direct/Custom	Same as Custom Efficiency	
	Segment Efficiency - Custom Cooling	Direct/Custom	Same as Custom Efficiency	
	Segment Efficiency - EMS	Direct/Custom	Same as Custom Efficiency	
	Segment Efficiency - Custom Custom	Direct/Custom	Same as Custom Efficiency	
	Segment Efficiency - Recommissioning	Direct/Prescriptive	Same as Custom Recommissioning	
Self-Direct		Direct/Custom	Customer will calculate savings and Company will verify calculations. Customer will develop and implement M&V plan specific to project. Company will review M&V plan and results. Additionally, a random sample of all pre-approved projects will be selected by the Company and sent to an outside engineering firm for metering and verification.	Process/Impact Study in 2011
Small Business Lighting Efficiency		Direct/Prescriptive	Verification Contractor selects random sample & performs field inspections of deemed savings factors -- e.g. number of fixtures, equipment type, building type, existence of air conditioning. Information gathered for a sample lamp/fixtures.	
Standard Offer		Direct/Custom	Customer or customers agent (such as ESCO) will calculate savings and Company will verify calculations. Customer or customers agent (such as ESCO) will develop and implement M&V plan specific to project and will submit it as a part of the project description in the initial audit phase of the product. Company will review M&V plan and results. Additionally, a random sample of all pre-approved projects will be selected by the Company and sent to an outside engineering firm for metering and verification.	

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Business Gas:				
Heating Efficiency	Heating Efficiency Custom	Direct/Custom	Projects <20,000 Dth savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification. Account Manager or Business Solutions Center verifies project installation, collects equipment invoices. Project >=20,000 Dth savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	Process/Impact Study in 2011
	Heating Efficiency Prescriptive	Direct/Prescriptive	Verification Contractor selects random sample and performs field inspections of deemed savings factors. For boilers -- size and efficiency. For steam traps -- high or low pressure. For all other -- size and implemented measure.	Process/Impact Study in 2011
Custom Efficiency		Direct/Custom	Projects <20,000 Dth savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification. Account Manager or Business Solutions Center verifies project installation, collects equipment invoices. Project >=20,000 Dth savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
Energy Management Systems		Direct/Custom	Projects <20,000 Dth savings: Company engineers or outside engineering firm calculate savings for pre-approval, calculations reviewed by higher levels of engineering staff depending on size. Random samples of projects sent to outside engineering firm for verification. Account Manager or Business Solutions Center verifies project installation, collects equipment invoices. Project >=20,000 Dth savings: Pre & Post Metering verifies savings. (Projects of all sizes may be metered depending on certainty assessment of savings).	
New Construction	Energy Efficiency Buildings	Direct/Custom	Consultant visits site and verifies that specified measures were installed. Projects with individual measure savings >= 20,000 Dth savings: Four weeks of data logging verifies savings.	
	Energy Design Assistance	Direct/Custom	Consultant visits site and verifies that specified measures were installed. Equipment and systems are monitored for a two week timeframe, as appropriate, to evaluate performance variables against modeling assumptions. Projects with individual measure savings >= 20,000 Dth savings: Four weeks of data logging verifies savings. All projects verified with actual results not within 15% of the energy savings identified in the original model, will have an as-built model completed for rebate calculations.	

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Recommissioning	Recommissioning Studies	Indirect	N/A	
	Recommissioning Study credit	Direct/Custom	Customer hires an engineering firm to conduct study of building and to determine energy savings for each measure. Internal engineer reviews and verifies that savings calculations are accurate for 100% of projects. For measures over 20,000 Dth of savings, pre and post metering is required to verify savings, if feasible. For projects that are very difficult to meter, a combination of metering and calculation may be used.	
	Recommissioning over 1 year projects	Direct/Custom	Customer hires an engineering firm to conduct study of building and to determine energy savings for each measure. Internal engineer reviews and verifies that savings calculations are accurate for 100% of projects. For measures over 20,000 Dth of savings, pre and post metering is required to verify savings, if feasible. For projects that are very difficult to meter, a combination of metering and calculation may be used.	
Segment Efficiency	Segment Efficiency - Prescriptive Boilers	Direct/Prescriptive	Same as Prescriptive Heating Efficiency	
	Segment Efficiency - Recommissioning	Direct/Custom	Same as Custom Recommissioning	
Standard Offer		Direct/Custom	Customer or customers agent (such as ESCO) will calculate savings and Company will verify calculations. Customer or customers agent (such as ESCO) will develop and implement M&V plan specific to project and will submit it as a part of the project description in the initial audit phase of the product. Company will review M&V plan and results. Additionally, a random sample of all pre-approved projects will be selected by the Company and sent to an outside engineering firm for metering and verification.	

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Residential Electric:				
ENERGY STAR New Homes		Direct/Prescriptive	Third-party product implementer performs walk through and HERS rating (blower door) at end of construction prior to rebating for product - 100% site verification. Home size information, measures installed, and HERS rating are verified.	
Evaporative Cooling Rebate Product		Direct/Prescriptive	Verification Contractor selects random sample and performs field inspections of deemed savings factors; e.g. type of unit (tier 1 or 2), and type of unit if previously installed.	
Home Lighting & Recycling		Direct/Prescriptive	Third party administrator provides tracking data and manufacturer sales reports for bulbs sold. Verification contractor audits the data and compares to manufacturer sales reports. Verification contractor corrects any errors and calculates energy savings based on Public Service assumptions.	
High Efficiency Air Conditioning		Direct/Prescriptive	Verification Contractor selects random sample and performs field inspections of deemed savings factors using a defined process. This includes verifying load calc was performed, unit sized properly and that refrigerant charge, air flow, and duct leakage are within acceptable ranges.	
Home Performance with ENERGY STAR		Direct/Prescriptive	Third-party product implementer performs a walk through inspection after the homeowner has performed all of their planned energy efficiency improvements. The work conducted by a participating installation contractor will be inspected through this method. Contractors will have first five completed projects inspected followed by a ten percent sample of homes. The product has this permanently built into the product as a requirement to ensure all stated	
Refrigerator Recycling		Direct/Prescriptive	Verification contractor conducts phone surveys of random sample of participants to verify removal of refrigerator and that refrigerator was operable at time of removal.	
Saver's Switch		Direct/ Demand Response	Xcel Energy's load research group manages third-party contractors to conduct sampling of enrolled sites. A data logger is installed on-site to monitor the air conditioner's energy use and how that use changes on a control day. Third-party evaluator analyzes results to determine load relief achieved during a control day.	
School Education Kit		Direct/Prescriptive	Third-party product implementer conducts phone/mail surveys to teachers/students to confirm what was installed at students home.	
Low-Income Segment	Single Family Weatherization	Direct/Prescriptive	Contracted weatherization agency visits home, identifies savings opportunities and then installs measures. Weatherization agency provides documentation of completed measures to third-party product implementer, who submits information to PSCo.	Single-Family Weatherization Process/Impact Study in 2011
	Multi-Family Weatherization	Direct/Prescriptive	Consultant visits home and completes energy audit. PSCo engineer reviews audit report and approves or denies report. Consultant visits site to verify that approved measures were installed and submits final savings in verification report.	
	Non-Profit Weatherization	Direct/Prescriptive	Consultant visits home and completes energy audit. PSCo engineer reviews audit report and approves or denies report. Consultant visits site to verify that approved measures were installed and submits final savings in verification report.	
	Energy Savings Kit	Direct/Prescriptive	Third-party conducts phone surveys to confirm what was installed at recipient's home.	

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Residential Gas:				
ENERGY STAR New Homes		Direct/Prescriptive	Third party product implementer manages certified energy raters who consult directly with builders during construction phase and then assign a HERS rating (with blower door testing) at end of construction prior to rebating for product - 100% site verification. Home size information, measures installed, and HERS rating are verified by product implementer.	
Heating System Rebate		Direct/Prescriptive	Verification Contractor selects random sample & performs field inspections of deemed savings factors; e.g. manufacturer, model, serial number	
Home Performance with ENERGY STAR		Direct/Prescriptive	Third-party product implementer performs a walk through inspection after the homeowner has performed all of their planned energy efficiency improvements. The work conducted by a participating installation contractor will be inspected through this method. Contractors will have first five completed projects inspected followed by a ten percent sample of homes. The product has this permanently built into the product as a requirement to ensure all stated improvements have been made prior to issuing the rebate. PSCO will also implement a market research survey with customers to gauge satisfaction with the product, auditors, and installation contractors that were used.	
Insulation Rebate		Direct/Prescriptive	Verification Contractor selects random sample & conducts phone survey to confirm measure was installed.	
Water Heating Rebate		Direct/Prescriptive	Verification Contractor selects random sample & performs field inspections of deemed savings factors -- e.g. type of unit installed.	
Low-Income Segment	Single Family Weatherization	Direct/Prescriptive	Contracted weatherization agency visits home, identifies savings opportunities and then installs measures. Weatherization agency provides documentation of completed measures to third-party product implementer, who submits information to PSCo.	Single-Family Weatherization Process/Impact Study in 2011
	Multi-Family Weatherization	Direct/Prescriptive	Consultant visits home and completes energy audit. PSCo engineer reviews audit report and approves or denies report. Consultant visits site to verify that approved measures were installed and submits final savings in verification report.	
	Non-Profit Weatherization	Direct/Prescriptive	Consultant visits home and completes energy audit. PSCo engineer reviews audit report and approves or denies report. Consultant visits site to verify that approved measures were installed and submits final savings in verification report.	
	Easy Savings Energy Kits	Direct/Prescriptive	Third-party product implementer conducts phone or mail surveys to confirm what was installed at recipient's home.	

Program & Product Name	Component Name	Type of Product	M&V Plan	Comprehensive Product Evaluation Plans
Education/Market Transformation Segment				
Business Energy Analysis		Indirect	Since this is an indirect impact product, we will not perform M&V of savings, however Public Service does tracks the number of online assessments, onsite assessments and engineering assistance studies.	
Customer Behavioral Change - Residential & Business		Indirect/Market Transformation	Direct savings are not credited to this program; therefore, on-going M&V will not be conducted.	
Residential Home Energy Audit		Indirect	Since this is an indirect impact product, we will not perform M&V of savings. However, a third-party contractor will periodically review a sample of completed audits to determine if the auditor correctly identified all of the energy efficiency opportunities.	
Pilots				
Energy Feedback		Residential Pilot	Data is collected, analyzed and reported by third-party participants in the Pilot to assess effectiveness of products and feedback types. In addition, this Market Transformation behavior product will use relevant E,M&V plan guidelines as set forth in the California Evaluation Framework.[1]	
Smart Grid In Home Devices		Residential Pilot	Since this is pilot and an indirect impact product, we will not perform M&V of savings. However, a third-party contractor will perform an analysis and evaluation, including impact estimates. A preliminary evaluation will be completed after the 2012 summer season using a difference of differences approach. A final evaluation using data from 2012 and 2013 will be completed after the pilot concludes.	
Electric Vehicle Charging Station		Business/Residential Pilot	Since this is pilot and an indirect impact product, we will not perform M&V of savings. In order to simulate a demand response event, at least twelve, six-hour duration control events during the summer peaking season. Charging data for all participants and control periods will be analyzed to understand what a "typical" charging curve looks like for a given participant as well as per type of vehicle. This information will ultimately be used to identify the coincidence factor associated with controlling a level II residential vehicle charger.	
[1]TecMarket Works Framework Team, California Evaluation Framework, June 2004, p. 245 - 268.				

- **Interruptible Service Option Credit (ISOC) & Third-Party Demand Response**

Interruptible Service Option Credit

A. Description

The Colorado Interruptible Service Option Credit (ISOC) program offers significant savings opportunities for our Colorado business customers who can reduce their electric demand when notified. In return for participating, customers receive a monthly credit based on the options they have selected.

During periods of peak demand, such as hot summer days, the system may require more power than is normally available. By participating in this program, ISOC customers help reduce the amount of electricity needed, which helps Xcel Energy meet electric system requirements at critical times.

The program has been reviewed by the Colorado Public Utilities Commission, and is available to commercial customers in the Colorado service territory. To qualify, customers must have an interruptible demand of at least 300 kilowatts (kW) during the months of June, July August and September of the previous year. In addition, the customer must have a Contract Interruptible Load (CIL) of 300 kW or more.

The customer's contract interruptible load is the median of their maximum daily 1-hour integrated demands, which occurred between noon and 8 p.m. on Monday through Friday (excluding weekends and holidays); from June 1 through September 30 of the previous year. In addition, their interruptible demand is the maximum daily integrated demand used during the month that occurred between noon and 8 p.m., less any firm demand. Customers must install a phone line that is connected to their meter---this will allow Xcel Energy to provide near real-time usage information.

The participating customer signs a contract that includes their selected firm demand, the hours of interruption per year and their advance-notice requirement. Customers can use electricity as usual until Xcel Energy notifies them of a control period. We'll give advance notice before requiring the customer to curtail electricity use. Then, during the interruption period, customers cut their electricity use down to the firm demand chosen in their program agreement.

Customers choose the amount of interruption appropriate for their facility. The credit they receive is tied to the number of hours they contract to be interrupted each year and their advance notice option.

Interruption periods typically are triggered as a result of capacity, contingency and/or economic constraints. Economic interruptions are the only interruptions that offer a buy-through option. Currently, all interruptions (events) last a minimum of 4 hours, unless the customer has chosen to waive the 4-hour minimum interruption timeframe.

Unless customers choose the Within 10-Minute-notice option, we do not reduce the amount of electricity available to their facility; it's up to the customer to take steps to reduce their load during control periods. If customers do not meet their agreed-upon load reduction, they will be charged penalties.

B. Goals, Participants & Budgets

The Colorado ISOC program is dynamic, and we continue to explore ways to improve the program, work with customers on any change requests, and subsequently work to revise and enhance our budget forecasts. This effort takes place through the collaboration of a number of internal employees including analysts, account managers, product developers, marketers, technicians, and product managers.

From a total demand credit budget perspective, dollars allocated for this initiative are based on the number of hours they contract to be controlled each year, the amount of controllable load they have available, and their advance notice option.

In 2011, there were 63 Colorado customers participating in the ISOC program, representing 201 MW of Contract Interruptible load. We hope to continue with these same business customers on the ISOC program in 2012. Based on the contracted interruptible load of these ISOC customers, our budget for credits paid to these customers is $24,278,492. These credits paid are an actual monthly credit to the customer's energy bill.

Other ISOC budget items would include the development of marketing materials, such as customer ISOC System Guides, as well as annual training for both customers and Account Managers. This annual training ensures that all involved in the program are updated on the latest enhancements and revisions to the program. These marketing costs are forecasted to be $11,625 in 2012. Total program administrative costs including marketing, labor, incentives, system O&M and ADM is forecasted to be $484,384 in 2012. Our forecast for credits paid to ISOC customers in 2012 is estimated at $26,336,356.

C. Application Process

Account Managers play a vital role in communicating the benefits of this program to potential customers. They spend a great deal of time with the customer throughout the application process to ensure that the customer meets all the requirements of the program, and that all program information is understood. When customers decide to join the program, they will work with the account manager using the following application/contract process:

Qualification Requirements:
We are offering the ISOC rate to all current PSCo qualified customers. Prior to completing a contract, we must insure that the customer qualifies for the ISOC rate. The customer must have a minimum of 300 kW of Interruptible Demand in each of the summer months of June, July, August and September of the previous year. In addition the customer's Contract Interruptible Load for Planning Reserves must be greater than 300 kW. The Interruptible Demand and Contract Interruptible Load figures must be reduced by any Contract Firm Demand the customer chooses.

Contract Term:
The initial contract term shall be 24 months followed by an annual term that is automatically renewed each year. A six-month written notice is required to cancel. There is a one-year trial period provision provided in the tariff. In the first year on ISOC, the customer may choose to cancel their agreement by returning all credits paid. Xcel Energy will return any capacity/contingency penalties and cancel the contract. This provision is only available during the

initial and current year in which the contract is signed. If the customer signs-up for ISOC in April, the trial period will run from April through December of the current year.

Contract Completion:
Once it is determined that the customer will qualify for the ISOC, we will complete the Interruptible Service Option Agreement. The Agreement must be approved by the customer and by an authorized representative of PSCo prior to May 31st for the customer to receive credits in that year.

D. Marketing Objectives, Goals, & Strategy

A critical part of the Interruptible Service Option Credit (ISOC) program's success is our ability to locate potentially eligible customers, assist them in becoming a part of the program, and provide service according to the tariff. That process begins by us running a query on our customer information system to locate business customers in Colorado that meet eligibility requirements for the ISOC program.

Potential customers that meet program eligibility requirements are contacted by an Account Manager, and a meeting is scheduled with interested businesses. The objective of the meeting is to introduce the customer to the various ISOC program options, and discuss program requirements and responsibilities.

In addition to this customer prospecting process, Marketing and Communication materials are created, and these materials are used to communicate the features and benefits of the program. These marketing materials include:

- The Colorado Interruptible Service Option Credit (ISOC) System Guide –This guide is provided to customers on an annual basis and is a valuable reference to navigating the ISOC tracking system.
- Electric Rate Savings Feature Sheet – This piece summarizes the program features and benefits, and helps potential customers determine their qualification status.
- Electric Rate Savings Credit Sheet – This reference outlines the various control options, and assists customers in understanding the savings they could realize by participating in the program.
- ISOC Website on xcelenergy.com - Extensive program information is also included on the Xcel Energy website for current and potential customers to assess. The site is reviewed on a consistent basis to ensure the information is current.

Account Managers work with these potential customers by utilizing the marketing and communications materials referenced above. The account managers play a crucial role in this program by interacting with customers on a regular basis to ensure customer satisfaction.

A group of internal employees including analysts, account managers, product developers, marketers, technicians, and product managers are also continually working to set goals and objectives, as well as track the progress of the program. This goal measurement process consists of monitoring several indicators, including the number of customers participating, interruption data, MW available for control, and demand credit dollars.

Much of the effort for future ISOC marketing initiatives will involve working to target qualified customers and increase the level of communications to current and potential customers.

For a program of this nature, it is not only important to promote the program up-front, but customers also need ongoing support and communication. It should also be noted that we view marketing as a continuous process—not a single event—which includes initial discussion to recruit participants, then ongoing communication to ensure customers know and can continue to evaluate the benefits of the program in order to retain these customers, and ongoing communication/education about how the program works.

This effort includes pre-season communication and training, as well as pre, during and post control event communications and support. Marketing works to understand the various stages of any particular customer's interpretation of the program and provides materials and support necessary to ensure consistent and positive customer experience.

Marketing encompasses both solicitation communications and education, and also on-going program communication, including on-going training to retain participant customers in support of achieving the capacity deferral benefit potential of the program as captured in our ISOC forecast.

E. Product-Specific Policies

All contracts for service under this schedule shall be for an initial two-year term, with automatic one-year renewal terms. A customer must provide Xcel Energy written six months notice to cancel service under this schedule.

Any time during the first year of service under this schedule a customer may opt to cancel its contract by returning all monthly credits paid by Xcel up until the date of cancellation. No additional payment will be assessed.

Any customer who cancels service without complying with the Service Period requirements under this schedule shall be required to pay Xcel Energy, as a penalty, an amount equal to the product of 110% times the customer's Contract Interruptible Load times the customer's Monthly Credit Rate for each of the remaining months of the unexpired contract term.

In addition, the customer shall reimburse Xcel Energy for the direct cost incurred for equipment to measure the customer's Interruptible Demand and to interrupt the customer.

F. Stakeholder Involvement

Colorado business customers have played a major role in the on-going dynamics of this program. We continue to meet frequently and interact with these business customers to encourage their input. We also consistently monitor the marketplace, and constantly work to upgrade and improve the program through a strategy that combines findings from marketplace monitoring as well as customer input.

G. Rebate (Credit) Levels

The monthly kW credit paid to customers as part of the ISOC program is calculated by multiplying the Monthly Credit Rate by the lesser of the customer's Contract Interruptible Load or the actual Interruptible Demand during the billing month. These credits paid are an actual monthly credit to the customer's energy bill.

The Monthly Credit Rate is revised effective January 1 each year, and shall remain in effect for the calendar year. The Monthly Credit Rate will vary by season. The summer season runs from June 1 through September 30, and the winter season is October 1 through May 31.

The number of hours in the year that each customer elects as interruptible is set in the Interruptible Service Option Credit Agreement. The options include 40 hours, 80 hours, and 160 hours.

H. Evaluation, Measurement, & Verification Plan

There are both ISOC MW and ISOC credit dollar budget goals in place. Our evaluation, measurement and verification plan will consist of our monthly monitoring of those goals to ensure that we are on track with our budget forecast. In addition to this on-going monitoring, our plans call for periodic meetings throughout the year with key ISOC players to evaluate our program strategy, and to measure and verify our progress against our program plan numbers. Program adjustments will be made at that time, if warranted.

Peak Savings Program (EnerNOC)

A. Description

The Peak Savings Program is a third party demand response aggregation program managed by EnerNOC. It was developed as a result of PUC Decision No. C08-0369 under Docket No. 07A-469E. The program was designed to be price capacity at below the levelized avoided cost of a combustion turbine. This means that on purely a capacity basis, the program should always yield positive net benefits. The EnerNOC contract runs through 2016 and has a 40 MW demand response minimum. EnerNOC's Third Party Demand Response Program was branded "Peak Savings" to align with other load reduction programs offered by Xcel Energy. Xcel Energy is allowed to recover the costs of the Peak Savings Program through the DSMCA.

Target Market

Peak Saving's participants range in size from >1 MW to <100 kW. EnerNOC seeks a diverse portfolio in order to meet the 40 MW year round DR commitments required under the contract.

Event Management

- The Peak Savings Resource appears as one large resource to our System Operators, and is dispatched similarly to ISOC. s.

Results

EnerNOC has experienced some challenges in the build-out of the program and in reaching Target Capacity goals set by the contract. The first goal, 20 MW of Committed Load Reduction by June, 2009 was met in October, 2009. The second goal of 40 MW of Committed Load reductions by June 2010 was met in July of 2011. EnerNOC was penalized under the contract for meeting these goals later than specified. . The penalties were taken as a reduction to the monthly payment to EnerNOC.

EnerNOC is expected to reach the 44 MW contract maximum in August of 2011 and to maintain the contractual minimum of 40 MW of Committed Load Reduction for the remainder of the contract term.

B. Goals, Participants & Budgets

EnerNOC is responsible for meeting the following goals. Failure to meet the minimum goal results in financial penalties identified in the contract.

- June 1st , 2010 thru end of term 40 to 44 MW

C. Application Process

EnerNOC is responsible for providing turn-key fulfillment of the Peak Savings product offering. This includes the application process.

D. Marketing Objectives, Goals, & Strategy

All Sales, marketing activities is the responsibility of EnerNOC. Currently EnerNOC is contractually responsible for providing a minimum of 40 MW and maximum of 44 MW of interruptible load each month.

E. Product-Specific Policies

Participation is limited to Commercial and Industrial customers. Although no minimum or maximum customer size is identified, EnerNOC specializes in aggregating smaller loads from customers who do not qualify for the ISOC tariff. Participants are limited to existing firm rate Commercial and Industrial customers who are not currently under an existing interruptible contract (ISOC), or on a Standby Tariff.

F. Stakeholder Involvement

Primary stakeholders are Xcel Energy, and EnerNOC. Xcel Energy uses this load to insure system reliability and to reduce system costs when the costs of additional generation or power purchases exceed the program costs. EnerNOC has made investments in labor to attract, identify, qualify and sign-up participants. EnerNOC has also made investments in their PowerTrak system which is used to monitor customer loads and events.

G. Rebate (Credit) Levels

Terms and the rates identified by the contract are confidential.

H. Evaluation, Measurement, & Verification Plan

Peak Savings customers have monitoring equipment installed as part of their enrollment. This data is accessible by the Customer through the PowerTrak web based monitoring system. Customers can view their usage at any time using their unique username/password to log into the system. The amount of DR supplied for a given event is calculated by subtracting the actual aggregated usage of all customers from the aggregated baseline usage during the event window.

DSM PORTFOLIO - ELECTRIC			2012	ELECTRIC	GOAL

2012 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	$123,789,355	$123,789,355	$123,789,355
Transmission & Distribution Capa	N/A	$22,996,260	$22,996,260	$22,996,260
Marginal Energy	N/A	$132,717,970	$132,717,970	$132,717,970
Avoided Emissions (CO2)	N/A	N/A	N/A	$0
Subtotal				$279,503,584
Non-Energy Benefits Adder (10.3%)				$28,670,998
Subtotal	N/A	$279,503,584	$279,503,584	$308,174,582
Other Benefits				
Bill Reduction - Electric	$467,979,439	N/A	N/A	N/A
Participant Rebates and Incentives	$40,518,883	N/A	N/A	$40,518,883
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$2,322,187	N/A	N/A	$2,722,476
Subtotal	$510,820,508	N/A	N/A	$43,241,359
Total Benefits	$510,820,508	$279,503,584	$279,503,584	$351,415,941
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$1,548,527	$1,548,527	$1,548,527
Administration & Program Delivery	N/A	$18,694,512	$18,694,512	$18,694,512
Advertising/Promotion/Customer E	N/A	$8,693,714	$8,693,714	$8,693,714
Participant Rebates and Incentives	N/A	$40,518,883	$40,518,883	$40,518,883
Equipment & Installation	N/A	$4,084,750	$4,084,750	$4,084,750
Measurement and Verification	N/A	$2,435,714	$2,435,714	$2,435,714
Subtotal	N/A	$75,976,099	$75,976,099	$75,976,099
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	$414,751,567	N/A
Subtotal	N/A	N/A	$414,751,567	N/A
Participant Costs				
Incremental Capital Costs	$69,592,844	N/A	N/A	$64,013,676
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$69,592,844	N/A	N/A	$64,013,676
Total Costs	$69,592,844	$75,976,099	$490,727,666	$139,989,775
Net Benefit (Cost)	$441,227,664	$203,527,485	($211,224,081)	$211,426,166
Benefit/Cost Ratio	7.34	3.68	0.57	2.51

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Inputs per Customer kW		
Lifetime (Weighted on Generator kWh)	A	12 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	34.75%
Gross Load Factor at Customer	E	16.56%
Net-to-Gross (Energy)	F	87.6%
Net-to-Gross (Demand)	G	88.1%
Transmission Loss Factor (Energy)	H	6.973%
Transmission Loss Factor (Demand)	I	7.453%
Installation Rate (Energy)	**J**	**98.5%**
Installation Rate (Demand)	**K**	**99.4%**
MTRC Net Benefit (Cost)	**L**	$860
MTRC Non-Energy Benefit Adder	**M**	$117
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.3288 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,451 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	1,251 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	1,345 kWh

Program Summary per Participant

Gross kW Saved at Customer	P	0.35 kW
Net coincident kW Saved at Generator	**(G x P x K) x D / (1 - I)**	0.12 kW
Gross Annual kWh Saved at Customer	(B x E x P)	514 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x P x J))**	443 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x P x J)) / (1 - H)**	477 kWh

Program Summary All Participants

Total Participants	Q	693,660
Total Budget	R	**$75,976,099**
Gross kW Saved at Customer	(Q x P)	245,767 kW
Net coincident kW Saved at Generator	**((G x P x K) x D / (1 - I)) x Q**	**80,804 kW**
Gross Annual kWh Saved at Customer	(B x E x P) x Q	356,613,336 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x P x J) x Q**	351,141,280 kWh
Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	307,500,730 kWh
Net Annual kWh Saved at Generator	**((F x (B x E x P x J)) / (1 - H)) x Q**	**330,548,725 kWh**
TRC Net Benefits with Adder	(Q x P x L)	**$211,426,166**
TRC Net Benefits without Adder	(Q x P x (L - M))	**$182,755,168**

Utility Program Cost per kWh Lifetime	**$0.0185**
Utility Program Cost per kW at Gen	**$940**

DSM PORTFOLIO - ELECTRIC	2013	ELECTRIC	GOAL

2013 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	$131,079,917	$131,079,917	$131,079,917
Transmission & Distribution Capa	N/A	$24,495,740	$24,495,740	$24,495,740
Marginal Energy	N/A	$144,234,431	$144,234,431	$144,234,431
Avoided Emissions (CO2, SOx)	N/A	N/A	N/A	$0
Subtotal				$299,810,088
Non-Energy Benefits Adder (10.3%)				$30,771,362
Subtotal	N/A	$299,810,088	$299,810,088	$330,581,450
Other Benefits				
Bill Reduction - Electric	$483,443,869	N/A	N/A	N/A
Participant Rebates and Incentives	$44,892,081	N/A	N/A	$44,892,081
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$7,600,030	N/A	N/A	$7,892,613
Subtotal	$535,935,979	N/A	N/A	$52,784,694
Total Benefits	$535,935,979	$299,810,088	$299,810,088	$383,366,144
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$1,568,637	$1,568,637	$1,568,637
Administration & Program Delivery	N/A	$19,176,053	$19,176,053	$19,176,053
Advertising/Promotion/Customer E	N/A	$8,702,742	$8,702,742	$8,702,742
Participant Rebates and Incentives	N/A	$44,892,081	$44,892,081	$44,892,081
Equipment & Installation	N/A	$4,084,750	$4,084,750	$4,084,750
Measurement and Verification	N/A	$2,706,906	$2,706,906	$2,706,906
Subtotal	N/A	$81,131,169	$81,131,169	$81,131,169
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	$429,801,886	N/A
Subtotal	N/A	N/A	$429,801,886	N/A
Participant Costs				
Incremental Capital Costs	$74,760,092	N/A	N/A	$69,000,965
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$74,760,092	N/A	N/A	$69,000,965
Total Costs	$74,760,092	$81,131,169	$510,933,055	$150,132,134
Net Benefit (Cost)	$461,175,887	$218,678,920	($211,122,967)	$233,234,010
Benefit/Cost Ratio	7.17	3.70	0.59	2.55

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Inputs per Customer kW		
Lifetime (Weighted on Generator kWh)	A	13 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	36.57%
Gross Load Factor at Customer	E	17.22%
Net-to-Gross (Energy)	F	87.7%
Net-to-Gross (Demand)	G	88.2%
Transmission Loss Factor (Energy)	H	6.929%
Transmission Loss Factor (Demand)	I	7.429%
Installation Rate (Energy)	**J**	**98.8%**
Installation Rate (Demand)	**K**	**99.6%**
MTRC Net Benefit (Cost)	**L**	$975
MTRC Non-Energy Benefit Adder	**M**	$129
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.3468 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,508 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	1,307 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	1,404 kWh

Program Summary per Participant

Gross kW Saved at Customer	P	0.34 kW
Net coincident kW Saved at Generator	**(G x P x K) x D / (1 - I)**	0.12 kW
Gross Annual kWh Saved at Customer	(B x E x P)	511 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x P x J))**	443 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x P x J)) / (1 - H)**	476 kWh

Program Summary All Participants

Total Participants	Q	705,463
Total Budget	R	**$81,131,169**
Gross kW Saved at Customer	(Q x P)	239,238 kW
Net coincident kW Saved at Generator	**((G x P x K) x D / (1 - I)) x Q**	**82,960 kW**
Gross Annual kWh Saved at Customer	(B x E x P) x Q	360,833,658 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x P x J) x Q**	356,526,994 kWh
Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	312,722,408 kWh
Net Annual kWh Saved at Generator	**((F x (B x E x P x J)) / (1 - H)) x Q**	**336,003,828 kWh**
TRC Net Benefits with Adder	(Q x P x L)	**$233,234,010**
TRC Net Benefits without Adder	(Q x P x (L - M))	**$202,462,648**

Utility Program Cost per kWh Lifetime	**$0.0189**
Utility Program Cost per kW at Gen	**$978**

BUSINESS PROGRAM TOTAL — 2012 ELECTRIC GOAL

2012 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	$62,593,530	$62,593,530	$62,593,530
Transmission & Distribution Capa	N/A	$11,695,603	$11,695,603	$11,695,603
Marginal Energy	N/A	$99,303,181	$99,303,181	$99,303,181
Avoided Emissions (CO2)	N/A	N/A	N/A	$0
Subtotal				$173,592,313
Non-Energy Benefits Adder (10%)				$17,359,231
Subtotal	N/A	$173,592,313	$173,592,313	$190,951,544
Other Benefits				
Bill Reduction - Electric	$181,941,124	N/A	N/A	N/A
Participant Rebates and Incentives	$25,026,262	N/A	N/A	$25,026,262
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$2,509,144	N/A	N/A	$2,828,243
Subtotal	$209,476,530	N/A	N/A	$27,854,505
Total Benefits	$209,476,530	$173,592,313	$173,592,313	$218,806,050
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$750,754	$750,754	$750,754
Administration & Program Delivery	N/A	$10,135,902	$10,135,902	$10,135,902
Advertising/Promotion/Customer E	N/A	$2,908,868	$2,908,868	$2,908,868
Participant Rebates and Incentives	N/A	$25,026,262	$25,026,262	$25,026,262
Equipment & Installation	N/A	$0	$0	$0
Measurement and Verification	N/A	$1,189,947	$1,189,947	$1,189,947
Subtotal	N/A	$40,011,734	$40,011,734	$40,011,734
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	$155,545,070	N/A
Subtotal	N/A	N/A	$155,545,070	N/A
Participant Costs				
Incremental Capital Costs	$71,236,189	N/A	N/A	$60,878,739
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$71,236,189	N/A	N/A	$60,878,739
Total Costs	$71,236,189	$40,011,734	$195,556,804	$100,890,473
Net Benefit (Cost)	$138,240,340	$133,580,579	($21,964,491)	$117,915,576
Benefit/Cost Ratio	2.94	4.34	0.89	2.17

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Inputs per Customer kW

Lifetime (Weighted on Generator kWh)	A	16 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	76.38%
Gross Load Factor at Customer	E	48.56%
Net-to-Gross (Energy)	F	85.4%
Net-to-Gross (Demand)	G	85.5%
Transmission Loss Factor (Energy)	H	6.500%
Transmission Loss Factor (Demand)	I	6.500%
Installation Rate (Energy)	**J**	**100.0%**
Installation Rate (Demand)	**K**	**100.0%**
MTRC Net Benefit (Cost)	**L**	$2,309
MTRC Non-Energy Benefit Adder	**M**	$340
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.6984 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,254 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	3,635 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	3,887 kWh

Program Summary per Participant

Gross kW Saved at Customer	P	8.09 kW
Net coincident kW Saved at Generator	**(G x P x K) x D / (1 - I)**	5.65 kW
Gross Annual kWh Saved at Customer	(B x E x P)	34,433 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x P x J))**	29,421 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x P x J)) / (1 - H)**	31,466 kWh

Program Summary All Participants

Total Participants	Q	6,309
Total Budget	R	**$40,011,734**
Gross kW Saved at Customer	(Q x P)	51,070 kW
Net coincident kW Saved at Generator	**((G x P x K) x D / (1 - I)) x Q**	**35,667 kW**
Gross Annual kWh Saved at Customer	(B x E x P) x Q	217,251,438 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x P x J) x Q**	217,251,438 kWh
Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	185,625,520 kWh
Net Annual kWh Saved at Generator	**((F x (B x E x P x J)) / (1 - H)) x Q**	**198,529,968 kWh**
TRC Net Benefits with Adder	(Q x P x L)	**$117,915,576**
TRC Net Benefits without Adder	(Q x P x (L - M))	**$100,556,345**

Utility Program Cost per kWh Lifetime	**$0.0127**
Utility Program Cost per kW at Gen	**$1,122**

BUSINESS PROGRAM TOTAL			2013 ELECTRIC	GOAL

2013 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	$68,305,393	$68,305,393	$68,305,393
Transmission & Distribution Capa	N/A	$12,828,241	$12,828,241	$12,828,241
Marginal Energy	N/A	$111,250,035	$111,250,035	$111,250,035
Avoided Emissions (CO2, SOx)	N/A	N/A	N/A	$0
Subtotal				$192,383,669
Non-Energy Benefits Adder (10%)				$19,238,367
Subtotal	N/A	$192,383,669	$192,383,669	$211,622,036
Other Benefits				
Bill Reduction - Electric	$200,107,741	N/A	N/A	N/A
Participant Rebates and Incentives	$27,933,367	N/A	N/A	$27,933,367
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$7,832,424	N/A	N/A	$8,027,090
Subtotal	$235,873,532	N/A	N/A	$35,960,457
Total Benefits	$235,873,532	$192,383,669	$192,383,669	$247,582,492
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$772,814	$772,814	$772,814
Administration & Program Delivery	N/A	$10,833,731	$10,833,731	$10,833,731
Advertising/Promotion/Customer E	N/A	$2,941,781	$2,941,781	$2,941,781
Participant Rebates and Incentives	N/A	$27,933,367	$27,933,367	$27,933,367
Equipment & Installation	N/A	$0	$0	$0
Measurement and Verification	N/A	$1,234,770	$1,234,770	$1,234,770
Subtotal	N/A	$43,716,462	$43,716,462	$43,716,462
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	$172,305,805	N/A
Subtotal	N/A	N/A	$172,305,805	N/A
Participant Costs				
Incremental Capital Costs	$76,118,140	N/A	N/A	$65,277,283
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$76,118,140	N/A	N/A	$65,277,283
Total Costs	$76,118,140	$43,716,462	$216,022,267	$108,993,745
Net Benefit (Cost)	$159,755,392	$148,667,207	($23,638,598)	$138,588,747
Benefit/Cost Ratio	3.10	4.40	0.89	2.27

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Inputs per Customer kW		
Lifetime (Weighted on Generator kWh)	A	16 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	75.85%
Gross Load Factor at Customer	E	48.65%
Net-to-Gross (Energy)	F	86.0%
Net-to-Gross (Demand)	G	86.1%
Transmission Loss Factor (Energy)	H	6.500%
Transmission Loss Factor (Demand)	I	6.500%
Installation Rate (Energy)	**J**	**100.0%**
Installation Rate (Demand)	**K**	**100.0%**
MTRC Net Benefit (Cost)	**L**	$2,536
MTRC Non-Energy Benefit Adder	**M**	$352
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.6986 kW
Gross Annual kWh Saved at Customer	(B x E x C)	4,262 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	3,667 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	3,922 kWh

Program Summary per Participant

Gross kW Saved at Customer	P	8.18 kW
Net coincident kW Saved at Generator	**(G x P x K) x D / (1 - I)**	5.71 kW
Gross Annual kWh Saved at Customer	(B x E x P)	34,861 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x P x J))**	29,994 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x P x J)) / (1 - H)**	32,079 kWh

Program Summary All Participants

Total Participants	Q	6,682
Total Budget	R	**$43,716,462**
Gross kW Saved at Customer	(Q x P)	54,656 kW
Net coincident kW Saved at Generator	**((G x P x K) x D / (1 - I)) x Q**	**38,184 kW**
Gross Annual kWh Saved at Customer	(B x E x P) x Q	232,929,667 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x P x J) x Q**	232,929,667 kWh
Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	200,408,902 kWh
Net Annual kWh Saved at Generator	**((F x (B x E x P x J)) / (1 - H)) x Q**	**214,341,071 kWh**
TRC Net Benefits with Adder	(Q x P x L)	**$138,588,747**
TRC Net Benefits without Adder	(Q x P x (L - M))	**$119,350,380**

Utility Program Cost per kWh Lifetime	**$0.0129**
Utility Program Cost per kW at Gen	**$1,145**

RESIDENTIAL PROGRAM TOTAL — 2012 ELECTRIC — GOAL

2012 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	$59,786,984	$59,786,984	$59,786,984
Transmission & Distribution Capa	N/A	$11,044,294	$11,044,294	$11,044,294
Marginal Energy	N/A	$29,806,326	$29,806,326	$29,806,326
Avoided Emissions (CO2)	N/A	N/A	N/A	$0
Subtotal				$100,637,605
Non-Energy Benefits Adder (10%)				$10,063,760
Subtotal	N/A	$100,637,605	$100,637,605	$110,701,365
Other Benefits				
Bill Reduction - Electric	$272,149,313	N/A	N/A	N/A
Participant Rebates and Incentives	$13,468,698	N/A	N/A	$13,468,698
Incremental Capital Savings	$3,379,442	N/A	N/A	$0
Incremental O&M Savings	$0	N/A	N/A	$0
Subtotal	$288,997,453	N/A	N/A	$13,468,698
Total Benefits	$288,997,453	$100,637,605	$100,637,605	$124,170,063
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$35,423	$35,423	$35,423
Administration & Program Delivery	N/A	$4,199,539	$4,199,539	$4,199,539
Advertising/Promotion/Customer E	N/A	$4,165,147	$4,165,147	$4,165,147
Participant Rebates and Incentives	N/A	$13,468,698	$13,468,698	$13,468,698
Equipment & Installation	N/A	$4,064,750	$4,064,750	$4,064,750
Measurement and Verification	N/A	$553,525	$553,525	$553,525
Subtotal	N/A	$26,487,082	$26,487,082	$26,487,082
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	$246,064,734	N/A
Subtotal	N/A	N/A	$246,064,734	N/A
Participant Costs				
Incremental Capital Costs	$0	N/A	N/A	$1,398,839
Incremental O&M Costs	$350,277	N/A	N/A	$211,925
Subtotal	$350,277	N/A	N/A	$1,610,764
Total Costs	$350,277	$26,487,082	$272,551,816	$28,097,846
Net Benefit (Cost)	$288,647,176	$74,150,523	($171,914,211)	$96,072,217
Benefit/Cost Ratio	825.05	3.80	0.37	4.42

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Inputs per Customer kW		
Lifetime (Weighted on Generator kWh)	A	7 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	24.42%
Gross Load Factor at Customer	E	7.43%
Net-to-Gross (Energy)	F	89.4%
Net-to-Gross (Demand)	G	89.8%
Transmission Loss Factor (Energy)	H	7.700%
Transmission Loss Factor (Demand)	I	7.700%
Installation Rate (Energy)	**J**	**96.6%**
Installation Rate (Demand)	**K**	**99.1%**
MTRC Net Benefit (Cost)	**L**	$521
MTRC Non-Energy Benefit Adder	**M**	$55
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.2354 kW
Gross Annual kWh Saved at Customer	(B x E x C)	651 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	562 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	609 kWh

Program Summary per Participant

Gross kW Saved at Customer	P	0.31 kW
Net coincident kW Saved at Generator	**(G x P x K) x D / (1 - I)**	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x P)	205 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x P x J))**	177 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x P x J)) / (1 - H)**	192 kWh

Program Summary All Participants

Total Participants	Q	586,208
Total Budget	R	**$26,487,082**
Gross kW Saved at Customer	(Q x P)	184,473 kW
Net coincident kW Saved at Generator	**((G x P x K) x D / (1 - I)) x Q**	**43,431 kW**
Gross Annual kWh Saved at Customer	(B x E x P) x Q	120,048,262 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x P x J) x Q**	115,960,702 kWh
Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	103,640,896 kWh
Net Annual kWh Saved at Generator	**((F x (B x E x P x J)) / (1 - H)) x Q**	**112,286,994 kWh**
TRC Net Benefits with Adder	(Q x P x L)	**$96,072,217**
TRC Net Benefits without Adder	(Q x P x (L - M))	**$86,008,457**
Utility Program Cost per kWh Lifetime		**$0.0321**
Utility Program Cost per kW at Gen		**$610**

RESIDENTIAL PROGRAM TOTAL — 2013 — ELECTRIC — GOAL

2013 Net Present Cost Benefit Summary — Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	$61,056,768	$61,056,768	$61,056,768
Transmission & Distribution Capa	N/A	$11,351,775	$11,351,775	$11,351,775
Marginal Energy	N/A	$29,252,909	$29,252,909	$29,252,909
Avoided Emissions (CO2, SOx)	N/A	N/A	N/A	$0
Subtotal				$101,661,452
Non-Energy Benefits Adder (10%)				$10,166,145
Subtotal	N/A	$101,661,452	$101,661,452	$111,827,598
Other Benefits				
Bill Reduction - Electric	$270,372,214	N/A	N/A	N/A
Participant Rebates and Incentives	$14,560,531	N/A	N/A	$14,560,531
Incremental Capital Savings	$3,468,381	N/A	N/A	$0
Incremental O&M Savings	$0	N/A	N/A	$0
Subtotal	$288,401,126	N/A	N/A	$14,560,531
Total Benefits	$288,401,126	$101,661,452	$101,661,452	$126,388,128
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$36,487	$36,487	$36,487
Administration & Program Delivery	N/A	$4,291,130	$4,291,130	$4,291,130
Advertising/Promotion/Customer E	N/A	$4,187,300	$4,187,300	$4,187,300
Participant Rebates and Incentives	N/A	$14,560,531	$14,560,531	$14,560,531
Equipment & Installation	N/A	$4,064,750	$4,064,750	$4,064,750
Measurement and Verification	N/A	$559,813	$559,813	$559,813
Subtotal	N/A	$27,700,011	$27,700,011	$27,700,011
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	$245,004,950	N/A
Subtotal	N/A	N/A	$245,004,950	N/A
Participant Costs				
Incremental Capital Costs	$0	N/A	N/A	$1,613,349
Incremental O&M Costs	$367,133	N/A	N/A	$222,057
Subtotal	$367,133	N/A	N/A	$1,835,406
Total Costs	$367,133	$27,700,011	$272,704,961	$29,535,417
Net Benefit (Cost)	$288,033,993	$73,961,441	($171,043,509)	$96,852,711
Benefit/Cost Ratio	785.55	3.67	0.37	4.28

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Inputs per Customer kW		
Lifetime (Weighted on Generator kWh)	A	8 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	25.40%
Gross Load Factor at Customer	E	7.14%
Net-to-Gross (Energy)	F	89.2%
Net-to-Gross (Demand)	G	89.6%
Transmission Loss Factor (Energy)	H	7.700%
Transmission Loss Factor (Demand)	I	7.700%
Installation Rate (Energy)	**J**	**97.0%**
Installation Rate (Demand)	**K**	**99.2%**
MTRC Net Benefit (Cost)	**L**	$551
MTRC Non-Energy Benefit Adder	**M**	$58
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.2446 kW
Gross Annual kWh Saved at Customer	(B x E x C)	625 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	541 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	586 kWh

Program Summary per Participant

Gross kW Saved at Customer	P	0.29 kW
Net coincident kW Saved at Generator	**(G x P x K) x D / (1 - I)**	0.07 kW
Gross Annual kWh Saved at Customer	(B x E x P)	183 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x P x J))**	159 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x P x J)) / (1 - H)**	172 kWh

Program Summary All Participants

Total Participants	Q	599,389
Total Budget	R	**$27,700,011**
Gross kW Saved at Customer	(Q x P)	175,620 kW
Net coincident kW Saved at Generator	**((G x P x K) x D / (1 - I)) x Q**	**42,965 kW**
Gross Annual kWh Saved at Customer	(B x E x P) x Q	109,848,159 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x P x J) x Q**	106,522,873 kWh
Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	95,018,950 kWh
Net Annual kWh Saved at Generator	**((F x (B x E x P x J)) / (1 - H)) x Q**	**102,945,775 kWh**
TRC Net Benefits with Adder	(Q x P x L)	**$96,852,711**
TRC Net Benefits without Adder	(Q x P x (L - M))	**$86,686,566**

Utility Program Cost per kWh Lifetime	**$0.0359**
Utility Program Cost per kW at Gen	**$645**

LOW-INCOME PROGRAM TOTAL — 2012 ELECTRIC — GOAL

2012 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	$1,293,226	$1,293,226	$1,293,226
Transmission & Distribution Capa	N/A	$235,840	$235,840	$235,840
Marginal Energy	N/A	$3,275,194	$3,275,194	$3,275,194
Avoided Emissions (CO2)	N/A	N/A	N/A	$0
Subtotal				$4,804,261
Non-Energy Benefits Adder (25%)				$1,201,065
Subtotal	N/A	$4,804,261	$4,804,261	$6,005,326
Other Benefits				
Bill Reduction - Electric	$13,451,128	N/A	N/A	N/A
Participant Rebates and Incentives	$1,736,073	N/A	N/A	$1,736,073
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$163,320	N/A	N/A	$106,158
Subtotal	$15,350,522	N/A	N/A	$1,842,231
Total Benefits	$15,350,522	$4,804,261	$4,804,261	$7,847,557
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$46,324	$46,324	$46,324
Administration & Program Delivery	N/A	$609,227	$609,227	$609,227
Advertising/Promotion/Customer E	N/A	$285,544	$285,544	$285,544
Participant Rebates and Incentives	N/A	$1,736,073	$1,736,073	$1,736,073
Equipment & Installation	N/A	$0	$0	$0
Measurement and Verification	N/A	$98,019	$98,019	$98,019
Subtotal	N/A	$2,775,187	$2,775,187	$2,775,187
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	$12,703,889	N/A
Subtotal	N/A	N/A	$12,703,889	N/A
Participant Costs				
Incremental Capital Costs	$1,736,098	N/A	N/A	$1,736,098
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$1,736,098	N/A	N/A	$1,736,098
Total Costs	$1,736,098	$2,775,187	$15,479,075	$4,511,284
Net Benefit (Cost)	$13,614,424	$2,029,074	($10,674,814)	$3,336,273
Benefit/Cost Ratio	8.84	1.73	0.31	1.74

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Inputs per Customer kW		
Lifetime (Weighted on Generator kWh)	A	9 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	10.63%
Gross Load Factor at Customer	E	13.98%
Net-to-Gross (Energy)	F	100.0%
Net-to-Gross (Demand)	G	100.0%
Transmission Loss Factor (Energy)	H	7.700%
Transmission Loss Factor (Demand)	I	7.700%
Installation Rate (Energy)	**J**	**90.4%**
Installation Rate (Demand)	**K**	**95.1%**
MTRC Net Benefit (Cost)	**L**	$358
MTRC Non-Energy Benefit Adder	**M**	$129
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.1095 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,224 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	1,106 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	1,198 kWh

Program Summary per Participant

Gross kW Saved at Customer	P	0.74 kW
Net coincident kW Saved at Generator	**(G x P x K) x D / (1 - I)**	0.08 kW
Gross Annual kWh Saved at Customer	(B x E x P)	907 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x P x J))**	819 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x P x J)) / (1 - H)**	888 kWh

Program Summary All Participants

Total Participants	Q	12,582
Total Budget	R	**$2,775,187**
Gross kW Saved at Customer	(Q x P)	9,322 kW
Net coincident kW Saved at Generator	**((G x P x K) x D / (1 - I)) x Q**	**1,021 kW**
Gross Annual kWh Saved at Customer	(B x E x P) x Q	11,411,998 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x P x J) x Q**	10,310,779 kWh
Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	10,310,779 kWh
Net Annual kWh Saved at Generator	**((F x (B x E x P x J)) / (1 - H)) x Q**	**11,170,941 kWh**
TRC Net Benefits with Adder	(Q x P x L)	**$3,336,273**
TRC Net Benefits without Adder	(Q x P x (L - M))	**$2,135,208**

Utility Program Cost per kWh Lifetime	**$0.0287**
Utility Program Cost per kW at Gen	**$2,718**

LOW-INCOME PROGRAM TOTAL — 2013 ELECTRIC — GOAL

2013 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Generation Capacity	N/A	$1,600,122	$1,600,122	$1,600,122
Transmission & Distribution Capa	N/A	$294,717	$294,717	$294,717
Marginal Energy	N/A	$3,374,183	$3,374,183	$3,374,183
Avoided Emissions (CO2, SOx)	N/A	N/A	N/A	$0
Subtotal				$5,269,022
Non-Energy Benefits Adder (25%)				$1,317,256
Subtotal	N/A	$5,269,022	$5,269,022	$6,586,278
Other Benefits				
Bill Reduction - Electric	$12,514,861	N/A	N/A	N/A
Participant Rebates and Incentives	$2,110,333	N/A	N/A	$2,110,333
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$134,739	N/A	N/A	$87,580
Subtotal	$14,759,933	N/A	N/A	$2,197,913
Total Benefits	$14,759,933	$5,269,022	$5,269,022	$8,784,191
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$47,715	$47,715	$47,715
Administration & Program Delivery	N/A	$526,081	$526,081	$526,081
Advertising/Promotion/Customer E	N/A	$270,549	$270,549	$270,549
Participant Rebates and Incentives	N/A	$2,110,333	$2,110,333	$2,110,333
Equipment & Installation	N/A	$0	$0	$0
Measurement and Verification	N/A	$98,019	$98,019	$98,019
Subtotal	N/A	$3,052,696	$3,052,696	$3,052,696
Utility Revenue Reduction				
Revenue Reduction - Electric	N/A	N/A	$12,042,079	N/A
Subtotal	N/A	N/A	$12,042,079	N/A
Participant Costs				
Incremental Capital Costs	$2,110,333	N/A	N/A	$2,110,333
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$2,110,333	N/A	N/A	$2,110,333
Total Costs	$2,110,333	$3,052,696	$15,094,774	$5,163,029
Net Benefit (Cost)	$12,649,600	$2,216,326	($9,825,752)	$3,621,162
Benefit/Cost Ratio	6.99	1.73	0.35	1.70

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Inputs per Customer kW		
Lifetime (Weighted on Generator kWh)	A	10 years
Annual Hours	B	8760
Gross Customer kW	C	1 kW
Generator Peak Coincidence Factor	D	13.29%
Gross Load Factor at Customer	E	14.38%
Net-to-Gross (Energy)	F	100.0%
Net-to-Gross (Demand)	G	100.0%
Transmission Loss Factor (Energy)	H	7.700%
Transmission Loss Factor (Demand)	I	7.700%
Installation Rate (Energy)	**J**	**92.3%**
Installation Rate (Demand)	**K**	**97.0%**
MTRC Net Benefit (Cost)	**L**	$449
MTRC Non-Energy Benefit Adder	**M**	$163
Net coincident kW Saved at Generator	**(G x C x K) x D / (1 - I)**	0.1398 kW
Gross Annual kWh Saved at Customer	(B x E x C)	1,260 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x C x J))**	1,163 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x C x J)) / (1 - H)**	1,260 kWh

Program Summary per Participant

Gross kW Saved at Customer	P	0.74 kW
Net coincident kW Saved at Generator	**(G x P x K) x D / (1 - I)**	0.10 kW
Gross Annual kWh Saved at Customer	(B x E x P)	937 kWh
Net Annual kWh Saved at Customer	**(F x (B x E x P x J))**	865 kWh
Net Annual kWh Saved at Generator	**(F x (B x E x P x J)) / (1 - H)**	938 kWh

Program Summary All Participants

Total Participants	Q	10,832
Total Budget	R	**$3,052,696**
Gross kW Saved at Customer	(Q x P)	8,059 kW
Net coincident kW Saved at Generator	**((G x P x K) x D / (1 - I)) x Q**	**1,127 kW**
Gross Annual kWh Saved at Customer	(B x E x P) x Q	10,154,194 kWh
Gross Installed Annual kWh Saved at Customer	**(B x E x P x J) x Q**	9,374,136 kWh
Net Annual kWh Saved at Customer	(F x (B x E x P x J)) x Q	9,374,136 kWh
Net Annual kWh Saved at Generator	**((F x (B x E x P x J)) / (1 - H)) x Q**	**10,156,160 kWh**
TRC Net Benefits with Adder	(Q x P x L)	**$3,621,162**
TRC Net Benefits without Adder	(Q x P x (L - M))	**$2,303,906**
Utility Program Cost per kWh Lifetime		**$0.0316**
Utility Program Cost per kW at Gen		**$2,710**

DSM PORTFOLIO - GAS			2012	GAS	GOAL
2012 Net Present Cost Benefit Summary	**Analysis For All Participants**				
	Participant Test ($Total)	**Utility Test ($Total)**	**Rate Impact Test ($Total)**	**Modified TRC Test ($Total)**
Benefits				
Avoided Revenue Requirements				
Commodity Cost Reduction	N/A	$26,202,753	$26,202,753	$26,202,753
Variable O&M Savings	N/A	$187,598	$187,598	$187,598
Demand Savings	N/A	$2,115,162	$2,115,162	$2,115,162
Subtotal				$28,505,513
Emissions Non-Energy Benefits Adder (7.4%)				$2,100,525
Subtotal	N/A	$28,505,513	$28,505,513	$30,606,038
Other Benefits				
Bill Reduction - Gas	$39,622,443	N/A	N/A	N/A
Participant Rebates and Incentives	$7,394,693	N/A	N/A	$7,394,693
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$7,620,584	N/A	N/A	$6,304,956
Subtotal	$54,637,720	N/A	N/A	$13,699,649
Total Benefits	$54,637,720	$28,505,513	$28,505,513	$44,305,687
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$373,062	$373,062	$373,062
Administration & Program Delivery	N/A	$2,664,875	$2,664,875	$2,664,875
Advertising/Promotion/Customer I	N/A	$704,159	$704,159	$704,159
Participant Rebates and Incentives	N/A	$7,394,693	$7,394,693	$7,394,693
Equipment & Installation	N/A	$0	$0	$0
Measurement and Verification	N/A	$1,485,294	$1,485,294	$1,485,294
Subtotal	N/A	$12,622,083	$12,622,083	$12,622,083
Utility Revenue Reduction				
Revenue Reduction - Gas	N/A	N/A	$35,719,247	N/A
Subtotal	N/A	N/A	$35,719,247	N/A
Participant Costs				
Incremental Capital Costs	$24,344,689	N/A	N/A	$22,203,965
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$24,344,689	N/A	N/A	$22,203,965
Total Costs	$24,344,689	$12,622,083	$48,341,330	$34,826,048
Net Benefit (Cost)	$30,293,031	$15,883,430	($19,835,817)	$9,479,639
Benefit/Cost Ratio	2.24	2.26	0.59	1.27

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals		
Program Assumptions:		
Lifetime (Weighted on Dth)	A	16.90 years
Net-to-Gross (Weighted on Dth)	B	90.81%
Install Rate (Weighted on Dth)	C	99.3%
Program Totals:		
Participants	D	119,402
Average Net Dth/Yr Saved	E	3.46
Total Dth/Yr Saved	F	**413,471**
Utility Costs per Net Dth/Yr	G	$30.53
Net Benefit (Cost) per Gross Dth/Yr	H	$22.93
Non-Energy Benefits Adder per Gross Dth/Yr	I	$5.08
Annual Dth/$M	($1M / G)	**32,758**
Total Utility Budget	(G x F)	**$12,622,083**
Total MTRC Net Benefits with Adder	(F x H)	**$9,479,639**
Total MTRC Net Benefits without Adder	(H - I) x F	**$7,379,114**
Utility Program Cost per Net Dth Lifetime	(G / A)	**$1.81**

DSM PORTFOLIO - GAS			2013	GAS	GOAL
2013 Net Present Cost Benefit Summary Analysis For All Participants					
	Participant Test ($Total)	**Utility Test ($Total)**	**Rate Impact Test ($Total)**	**Modified TRC Test ($Total)**
Benefits				
Avoided Revenue Requirements				
Commodity Cost Reduction	N/A	$23,977,405	$23,977,405	$23,977,405
Variable O&M Savings	N/A	$165,003	$165,003	$165,003
Demand Savings	N/A	$1,860,408	$1,860,408	$1,860,408
Subtotal				$26,002,817
Emissions Non-Energy Benefits Adder (7.8%)				$2,021,476
Subtotal	N/A	$26,002,817	$26,002,817	$28,024,292
Other Benefits				
Bill Reduction - Gas	$34,975,098	N/A	N/A	N/A
Participant Rebates and Incentives	$7,433,900	N/A	N/A	$7,433,900
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$7,286,654	N/A	N/A	$6,124,603
Subtotal	$49,695,652	N/A	N/A	$13,558,504
Total Benefits	$49,695,652	$26,002,817	$26,002,817	$41,582,796
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$382,376	$382,376	$382,376
Administration & Program Delivery	N/A	$2,679,843	$2,679,843	$2,679,843
Advertising/Promotion/Customer I	N/A	$678,267	$678,267	$678,267
Participant Rebates and Incentives	N/A	$7,433,900	$7,433,900	$7,433,900
Equipment & Installation	N/A	$0	$0	$0
Measurement and Verification	N/A	$1,530,974	$1,530,974	$1,530,974
Subtotal	N/A	$12,705,361	$12,705,361	$12,705,361
Utility Revenue Reduction				
Revenue Reduction - Gas	N/A	N/A	$32,684,425	N/A
Subtotal	N/A	N/A	$32,684,425	N/A
Participant Costs				
Incremental Capital Costs	$21,618,512	N/A	N/A	$18,936,726
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$21,618,512	N/A	N/A	$18,936,726
Total Costs	$21,618,512	$12,705,361	$45,389,785	$31,642,087
Net Benefit (Cost)	$28,077,140	$13,297,456	($19,386,969)	$9,940,709
Benefit/Cost Ratio	2.30	2.05	0.57	1.31

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals		
Program Assumptions:		
Lifetime (Weighted on Dth)	A	16.89 years
Net-to-Gross (Weighted on Dth)	B	5.43%
Install Rate (Weighted on Dth)	C	98.2%
Program Totals:		
Participants	D	117,689
Average Net Dth/Yr Saved	E	3.46
Total Dth/Yr Saved	F	**406,727**
Utility Costs per Net Dth/Yr	G	$31.24
Net Benefit (Cost) per Gross Dth/Yr	H	$24.44
Non-Energy Benefits Adder per Gross Dth/Yr	I	$4.97
Annual Dth/$M	($1M / G)	**32,012**
Total Utility Budget	(G x F)	**$12,705,361**
Total MTRC Net Benefits with Adder	(F x H)	**$9,940,709**
Total MTRC Net Benefits without Adder	(H - I) x F	**$7,919,233**
Utility Program Cost per Net Dth Lifetime	(G / A)	**$1.85**

BUSINESS PROGRAM TOTAL			2012	GAS		GOAL
2012 Net Present Cost Benefit Summary	**Analysis For All Participants**					
	Participant Test ($Total)	**Utility Test ($Total)**	**Rate Impact Test ($Total)**	**Modified TRC Test ($Total)**		
Benefits						
Avoided Revenue Requirements						
Commodity Cost Reduction	N/A	$6,927,932	$6,927,932	$6,927,932		
Variable O&M Savings	N/A	$49,545	$49,545	$49,545		
Demand Savings	N/A	$558,617	$558,617	$558,617		
Subtotal				$7,536,094		
Emissions Non-Energy Benefits Adder (5%)				$376,805		
Subtotal	N/A	$7,536,094	$7,536,094	$7,912,898		
Other Benefits						
Bill Reduction - Gas	$9,885,034	N/A	N/A	N/A		
Participant Rebates and Incentives	$959,946	N/A	N/A	$959,946		
Incremental Capital Savings	$0	N/A	N/A	$0		
Incremental O&M Savings	$2,486,614	N/A	N/A	$2,305,909		
Subtotal	$13,331,594	N/A	N/A	$3,265,855		
Total Benefits	$13,331,594	$7,536,094	$7,536,094	$11,178,753		
Costs						
Utility Project Costs						
Program Planning & Design	N/A	$130,074	$130,074	$130,074		
Administration & Program Delivery	N/A	$388,622	$388,622	$388,622		
Advertising/Promotion/Customer I	N/A	$100,362	$100,362	$100,362		
Participant Rebates and Incentives	N/A	$959,946	$959,946	$959,946		
Equipment & Installation	N/A	$0	$0	$0		
Measurement and Verification	N/A	$48,044	$48,044	$48,044		
Subtotal	N/A	$1,627,048	$1,627,048	$1,627,048		
Utility Revenue Reduction						
Revenue Reduction - Gas	N/A	N/A	$9,444,075	N/A		
Subtotal	N/A	N/A	$9,444,075	N/A		
Participant Costs						
Incremental Capital Costs	$6,387,290	N/A	N/A	$6,172,770		
Incremental O&M Costs	$0	N/A	N/A	$0		
Subtotal	$6,387,290	N/A	N/A	$6,172,770		
Total Costs	$6,387,290	$1,627,048	$11,071,123	$7,799,817		
Net Benefit (Cost)	$6,944,305	$5,909,046	($3,535,029)	$3,378,936		
Benefit/Cost Ratio	2.09	4.63	0.68	1.43		

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Assumptions:		
Lifetime (Weighted on Dth)	A	17.68 years
Net-to-Gross (Weighted on Dth)	B	95.97%
Install Rate (Weighted on Dth)	C	100.0%

Program Totals:		
Participants	D	297
Average Net Dth/Yr Saved	E	351.15
Total Dth/Yr Saved	F	**104,291**
Utility Costs per Net Dth/Yr	G	$15.60
Net Benefit (Cost) per Gross Dth/Yr	H	$32.40
Non-Energy Benefits Adder per Gross Dth/Yr	I	$3.61
Annual Dth/$M	($1M / G)	**64,098**
Total Utility Budget	(G x F)	**$1,627,048**
Total MTRC Net Benefits with Adder	(F x H)	**$3,378,936**
Total MTRC Net Benefits without Adder	(H - I) x F	**$3,002,131**
Utility Program Cost per Net Dth Lifetime	(G / A)	**$0.88**

BUSINESS PROGRAM TOTAL			2013	GAS		GOAL
2013 Net Present Cost Benefit Summary	**Analysis For All Participants**					
	Participant Test ($Total)	**Utility Test ($Total)**	**Rate Impact Test ($Total)**	**Modified TRC Test ($Total)**		
Benefits						
Avoided Revenue Requirements						
Commodity Cost Reduction	N/A	$3,447,078	$3,447,078	$3,447,078		
Variable O&M Savings	N/A	$24,025	$24,025	$24,025		
Demand Savings	N/A	$270,883	$270,883	$270,883		
Subtotal				$3,741,987		
Emissions Non-Energy Benefits Adder (5%)				$187,099		
Subtotal	N/A	$3,741,987	$3,741,987	$3,929,086		
Other Benefits						
Bill Reduction - Gas	$4,890,665	N/A	N/A	N/A		
Participant Rebates and Incentives	$885,349	N/A	N/A	$885,349		
Incremental Capital Savings	$0	N/A	N/A	$0		
Incremental O&M Savings	$2,493,037	N/A	N/A	$2,311,881		
Subtotal	$8,269,050	N/A	N/A	$3,197,230		
Total Benefits	$8,269,050	$3,741,987	$3,741,987	$7,126,317		
Costs						
Utility Project Costs						
Program Planning & Design	N/A	$132,916	$132,916	$132,916		
Administration & Program Delivery	N/A	$333,452	$333,452	$333,452		
Advertising/Promotion/Customer I	N/A	$103,714	$103,714	$103,714		
Participant Rebates and Incentives	N/A	$885,349	$885,349	$885,349		
Equipment & Installation	N/A	$0	$0	$0		
Measurement and Verification	N/A	$51,294	$51,294	$51,294		
Subtotal	N/A	$1,506,725	$1,506,725	$1,506,725		
Utility Revenue Reduction						
Revenue Reduction - Gas	N/A	N/A	$4,698,863	N/A		
Subtotal	N/A	N/A	$4,698,863	N/A		
Participant Costs						
Incremental Capital Costs	$2,847,467	N/A	N/A	$2,639,594		
Incremental O&M Costs	$0	N/A	N/A	$0		
Subtotal	$2,847,467	N/A	N/A	$2,639,594		
Total Costs	$2,847,467	$1,506,725	$6,205,588	$4,146,319		
Net Benefit (Cost)	$5,421,583	$2,235,261	($2,463,601)	$2,979,997		
Benefit/Cost Ratio	2.90	2.48	0.60	1.72		

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals		
Program Assumptions:		
Lifetime (Weighted on Dth)	A	17.44 years
Net-to-Gross (Weighted on Dth)	B	5.48%
Install Rate (Weighted on Dth)	C	100.0%
Program Totals:		
Participants	D	284
Average Net Dth/Yr Saved	E	335.99
Total Dth/Yr Saved	F	**95,420**
Utility Costs per Net Dth/Yr	G	$15.79
Net Benefit (Cost) per Gross Dth/Yr	H	$31.23
Non-Energy Benefits Adder per Gross Dth/Yr	I	$1.96
Annual Dth/$M	($1M / G)	**63,329**
Total Utility Budget	(G x F)	**$1,506,725**
Total MTRC Net Benefits with Adder	(F x H)	**$2,979,997**
Total MTRC Net Benefits without Adder	(H - I) x F	**$2,792,898**
Utility Program Cost per Net Dth Lifetime	(G / A)	**$0.91**

RESIDENTIAL PROGRAM TOTAL			2012 GAS		GOAL
2012 Net Present Cost Benefit Summary Analysis For All Participants				**Input Summary and Totals**	
	Participant Test ($Total)	**Utility Test ($Total)**	**Rate Impact Test ($Total)**	**Modified TRC Test ($Total)**	**Program Assumptions:**		
Benefits					Lifetime (Weighted on Dth)	A	18.89 years
Avoided Revenue Requirements					Net-to-Gross (Weighted on Dth)	B	87.12%
Commodity Cost Reduction	N/A	$16,061,540	$16,061,540	$16,061,540	Install Rate (Weighted on Dth)	C	100.0%
Variable O&M Savings	N/A	$114,134	$114,134	$114,134			
Demand Savings	N/A	$1,286,857	$1,286,857	$1,286,857			
Subtotal				$17,462,531	**Program Totals:**		
Emissions Non-Energy Benefits Adder (5%)				$873,127	Participants	D	20,350
Subtotal	N/A	$17,462,531	$17,462,531	$18,335,658	Average Net Dth/Yr Saved	E	11.16
					Total Dth/Yr Saved	F	**227,154**
Other Benefits					Utility Costs per Net Dth/Yr	G	$24.50
Bill Reduction - Gas	$25,152,111	N/A	N/A	N/A	Net Benefit (Cost) per Gross Dth/Yr	H	$23.13
Participant Rebates and Incentives	$3,651,496	N/A	N/A	$3,651,496	Non-Energy Benefits Adder per Gross Dth/Yr	I	$3.84
Incremental Capital Savings	$0	N/A	N/A	$0	**Annual Dth/$M**	($1M / G)	**40,822**
Incremental O&M Savings	$2,562,434	N/A	N/A	$2,327,549	**Total Utility Budget**	(G x F)	**$5,564,456**
Subtotal	$31,366,041	N/A	N/A	$5,979,045	**Total MTRC Net Benefits with Adder**	(F x H)	**$5,253,903**
					Total MTRC Net Benefits without Adder	(H - I) x F	**$4,380,776**
Total Benefits	$31,366,041	$17,462,531	$17,462,531	$24,314,702			
Costs					**Utility Program Cost per Net Dth Lifetime**	(G / A)	**$1.30**
Utility Project Costs							
Program Planning & Design	N/A	$20,436	$20,436	$20,436			
Administration & Program Delivery	N/A	$686,542	$686,542	$686,542			
Advertising/Promotion/Customer I	N/A	$182,030	$182,030	$182,030			
Participant Rebates and Incentives	N/A	$3,651,496	$3,651,496	$3,651,496			
Equipment & Installation	N/A	$0	$0	$0			
Measurement and Verification	N/A	$1,023,952	$1,023,952	$1,023,952			
Subtotal	N/A	$5,564,456	$5,564,456	$5,564,456			
Utility Revenue Reduction							
Revenue Reduction - Gas	N/A	N/A	$21,894,734	N/A			
Subtotal	N/A	N/A	$21,894,734	N/A			
Participant Costs							
Incremental Capital Costs	$15,422,547	N/A	N/A	$13,496,343			
Incremental O&M Costs	$0	N/A	N/A	$0			
Subtotal	$15,422,547	N/A	N/A	$13,496,343			
Total Costs	$15,422,547	$5,564,456	$27,459,191	$19,060,800			
Net Benefit (Cost)	$15,943,495	$11,898,075	($9,996,660)	$5,253,903			
Benefit/Cost Ratio	2.03	3.14	0.64	1.28			

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

RESIDENTIAL PROGRAM TOTAL			2013	GAS	GOAL

2013 Net Present Cost Benefit Summary Analysis For All Participants

	Participant Test ($Total)	Utility Test ($Total)	Rate Impact Test ($Total)	Modified TRC Test ($Total)
Benefits				
Avoided Revenue Requirements				
Commodity Cost Reduction	N/A	$17,085,204	$17,085,204	$17,085,204
Variable O&M Savings	N/A	$116,399	$116,399	$116,399
Demand Savings	N/A	$1,312,391	$1,312,391	$1,312,391
Subtotal				$18,513,994
Emissions Non-Energy Benefits Adder (5%)				$925,700
Subtotal	N/A	$18,513,994	$18,513,994	$19,439,694
Other Benefits				
Bill Reduction - Gas	$25,601,566	N/A	N/A	N/A
Participant Rebates and Incentives	$3,773,833	N/A	N/A	$3,773,833
Incremental Capital Savings	$0	N/A	N/A	$0
Incremental O&M Savings	$2,672,100	N/A	N/A	$2,433,736
Subtotal	$32,047,499	N/A	N/A	$6,207,569
Total Benefits	$32,047,499	$18,513,994	$18,513,994	$25,647,262
Costs				
Utility Project Costs				
Program Planning & Design	N/A	$21,050	$21,050	$21,050
Administration & Program Delivery	N/A	$694,865	$694,865	$694,865
Advertising/Promotion/Customer I	N/A	$172,316	$172,316	$172,316
Participant Rebates and Incentives	N/A	$3,773,833	$3,773,833	$3,773,833
Equipment & Installation	N/A	$0	$0	$0
Measurement and Verification	N/A	$1,027,943	$1,027,943	$1,027,943
Subtotal	N/A	$5,690,007	$5,690,007	$5,690,007
Utility Revenue Reduction				
Revenue Reduction - Gas	N/A	N/A	$23,289,251	N/A
Subtotal	N/A	N/A	$23,289,251	N/A
Participant Costs				
Incremental Capital Costs	$16,251,765	N/A	N/A	$13,770,813
Incremental O&M Costs	$0	N/A	N/A	$0
Subtotal	$16,251,765	N/A	N/A	$13,770,813
Total Costs	$16,251,765	$5,690,007	$28,979,258	$19,460,820
Net Benefit (Cost)	$15,795,734	$12,823,987	($10,465,264)	$6,186,443
Benefit/Cost Ratio	1.97	3.25	0.64	1.32

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Input Summary and Totals

Program Assumptions:		
Lifetime (Weighted on Dth)	A	18.83 years
Net-to-Gross (Weighted on Dth)	B	4.63%
Install Rate (Weighted on Dth)	C	100.0%

Program Totals:		
Participants	D	20,399
Average Net Dth/Yr Saved	E	11.38
Total Dth/Yr Saved	F	**232,164**
Utility Costs per Net Dth/Yr	G	$24.51
Net Benefit (Cost) per Gross Dth/Yr	H	$26.65
Non-Energy Benefits Adder per Gross Dth/Yr	I	$3.99
Annual Dth/$M	($1M / G)	**40,802**
Total Utility Budget	(G x F)	**$5,690,007**
Total MTRC Net Benefits with Adder	(F x H)	**$6,186,443**
Total MTRC Net Benefits without Adder	(H - I) x F	**$5,260,743**
Utility Program Cost per Net Dth Lifetime	(G / A)	**$1.30**

LOW-INCOME PROGRAM TOTAL			2012 GAS		GOAL
2012 Net Present Cost Benefit Summary	**Analysis For All Participants**			**Input Summary and Totals**	
				Program Assumptions:	
	Participant Test ($Total)	**Utility Test ($Total)**	**Rate Impact Test ($Total)**	**Modified TRC Test ($Total)**			
Benefits					Lifetime (Weighted on Dth)	A	14.20 years
Avoided Revenue Requirements					Net-to-Gross (Weighted on Dth)	B	100.00%
Commodity Cost Reduction	N/A	$3,097,220	$3,097,220	$3,097,220	Install Rate (Weighted on Dth)	C	94.5%
Variable O&M Savings	N/A	$22,731	$22,731	$22,731			
Demand Savings	N/A	$256,295	$256,295	$256,295			
Subtotal				$3,376,246	**Program Totals:**		
Emissions Non-Energy Benefits Adder (25%)				$844,061	Participants	D	11,662
Subtotal	N/A	$3,376,246	$3,376,246	$4,220,307	Average Net Dth/Yr Saved	E	5.00
Other Benefits					**Total Dth/Yr Saved**	F	**58,268**
Bill Reduction - Gas	$4,427,008	N/A	N/A	N/A	Utility Costs per Net Dth/Yr	G	$59.75
Participant Rebates and Incentives	$2,534,851	N/A	N/A	$2,534,851	Net Benefit (Cost) per Gross Dth/Yr	H	$41.37
Incremental Capital Savings	$0	N/A	N/A	$0	Non-Energy Benefits Adder per Gross Dth/Yr	I	$14.49
Incremental O&M Savings	$2,571,536	N/A	N/A	$1,671,498	**Annual Dth/$M**	($1M / G)	**16,737**
Subtotal	$9,533,395	N/A	N/A	$4,206,349	**Total Utility Budget**	(G x F)	**$3,481,422**
Total Benefits	$9,533,395	$3,376,246	$3,376,246	$8,426,657	**Total MTRC Net Benefits with Adder**	(F x H)	**$2,410,383**
Costs					**Total MTRC Net Benefits without Adder**	(H - I) x F	**$1,566,322**
Utility Project Costs					**Utility Program Cost per Net Dth Lifetime**	(G / A)	**$4.21**
Program Planning & Design	N/A	$14,987	$14,987	$14,987			
Administration & Program Delivery	N/A	$599,332	$599,332	$599,332			
Advertising/Promotion/Customer I	N/A	$226,591	$226,591	$226,591			
Participant Rebates and Incentives	N/A	$2,534,851	$2,534,851	$2,534,851			
Equipment & Installation	N/A	$0	$0	$0			
Measurement and Verification	N/A	$105,661	$105,661	$105,661			
Subtotal	N/A	$3,481,422	$3,481,422	$3,481,422			
Utility Revenue Reduction							
Revenue Reduction - Gas	N/A	N/A	$4,222,148	N/A			
Subtotal	N/A	N/A	$4,222,148	N/A			
Participant Costs							
Incremental Capital Costs	$2,534,852	N/A	N/A	$2,534,852			
Incremental O&M Costs	$0	N/A	N/A	$0			
Subtotal	$2,534,852	N/A	N/A	$2,534,852			
Total Costs	$2,534,852	$3,481,422	$7,703,570	$6,016,274			
Net Benefit (Cost)	$6,998,543	($105,176)	($4,327,324)	$2,410,383			
Benefit/Cost Ratio	3.76	0.97	0.44	1.40			

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

LOW-INCOME PROGRAM TOTAL				2013 GAS	GOAL
2013 Net Present Cost Benefit Summary	**Analysis For All Participants**			**Input Summary and Totals**	
	Participant Test ($Total)	**Utility Test ($Total)**	**Rate Impact Test ($Total)**	**Modified TRC Test ($Total)**	**Program Assumptions:**		
Benefits					Lifetime (Weighted on Dth)	A	14.66 years
Avoided Revenue Requirements					Net-to-Gross (Weighted on Dth)	B	7.36%
Commodity Cost Reduction	N/A	$3,319,543	$3,319,543	$3,319,543	Install Rate (Weighted on Dth)	C	88.3%
Variable O&M Savings	N/A	$23,392	$23,392	$23,392			
Demand Savings	N/A	$263,740	$263,740	$263,740			
Subtotal				$3,606,674	**Program Totals:**		
Emissions Non-Energy Benefits Adder (25%)				$901,669	Participants	D	9,913
Subtotal	N/A	$3,606,674	$3,606,674	$4,508,343	Average Net Dth/Yr Saved	E	5.59
					Total Dth/Yr Saved	F	**55,385**
Other Benefits					Utility Costs per Net Dth/Yr	G	$63.59
Bill Reduction - Gas	$4,324,578	N/A	N/A	N/A	Net Benefit (Cost) per Gross Dth/Yr	H	$42.71
Participant Rebates and Incentives	$2,526,318	N/A	N/A	$2,526,318	Non-Energy Benefits Adder per Gross Dth/Yr	I	$16.28
Incremental Capital Savings	$0	N/A	N/A	$0	**Annual Dth/$M**	($1M / G)	**15,725**
Incremental O&M Savings	$2,121,517	N/A	N/A	$1,378,986	**Total Utility Budget**	(G x F)	**$3,522,068**
Subtotal	$8,972,413	N/A	N/A	$3,905,304	**Total MTRC Net Benefits with Adder**	(F x H)	**$2,365,260**
					Total MTRC Net Benefits without Adder	(H - I) x F	**$1,463,591**
Total Benefits	$8,972,413	$3,606,674	$3,606,674	$8,413,647			
Costs					**Utility Program Cost per Net Dth Lifetime**	(G / A)	**$4.34**
Utility Project Costs							
Program Planning & Design	N/A	$15,437	$15,437	$15,437			
Administration & Program Delivery	N/A	$642,417	$642,417	$642,417			
Advertising/Promotion/Customer I	N/A	$206,592	$206,592	$206,592			
Participant Rebates and Incentives	N/A	$2,526,318	$2,526,318	$2,526,318			
Equipment & Installation	N/A	$0	$0	$0			
Measurement and Verification	N/A	$131,304	$131,304	$131,304			
Subtotal	N/A	$3,522,068	$3,522,068	$3,522,068			
Utility Revenue Reduction							
Revenue Reduction - Gas	N/A	N/A	$4,525,027	N/A			
Subtotal	N/A	N/A	$4,525,027	N/A			
Participant Costs							
Incremental Capital Costs	$2,519,280	N/A	N/A	$2,526,319			
Incremental O&M Costs	$0	N/A	N/A	$0			
Subtotal	$2,519,280	N/A	N/A	$2,526,319			
Total Costs	$2,519,280	$3,522,068	$8,047,094	$6,048,387			
Net Benefit (Cost)	$6,453,133	$84,606	($4,440,420)	$2,365,260			
Benefit/Cost Ratio	3.56	1.02	0.45	1.39			

Note: Dollar values represent present value of impacts accumulated over the lifetime of the measures.

Electric Planning Assumptions																								
Measure Description		High Efficiency Product Assumptions			Baseline Product Assumptions			Economic Assumptions				Stipulated Output						Economic Assumptions		Technical Assumption	2012		2013			
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Business																										
Compressed Air																										
Studies	Average Study -Efficiency	Leaks & Waste Found and Repaired	137,574	7,573	Existing System in with Leaks & Waste that have not been repaired	148,339	7,573	5.00	$4,964	$0	$7,323	68%	1.6	0.5	81,519	10.76	11.51	$0.00	$0.00	100%	18	18	18	18	87%	100%
Custom	Average Custom Project	New Equipment	73,689	5,823	Old or less efficient systems or equipment	148,339	5,823	20.00	$43,580	$23,963	$69,312	63%	2.5	0.9	434,709	74.65	55.21	$0.00	$0.00	69%	5	5	5	5	87%	100%
Prescriptive	No Air Loss Drain Valves	No-Air Loss Drains	0	5,823	Electronic Solenoid/Timed Drains	530	5,823	20.00	$200	$125	$448	45%	2.2	1.2	3,086	0.53	0.39	$0.00	$0.00	69%	18	24	18	24	87%	100%
Prescriptive	VFD compressors <50HP - (New/Plan A)	VFD Compressor	13,409	3,144	Modulation or load no-load with less than 3gal of storage per CFM of Capacity	19,662	3,144	20.00	$2,245	$0	$5,140	44%	2.9	1.7	19,659	6.25	5.94	$0.00	$0.00	89%	11	12	11	12	87%	100%
Prescriptive	VFD compressors <50HP - (Repalcement/Plan B)	VFD Compressor	13,747	3,159	Modulation or load no-load with less than 3gal of storage per CFM of Capacity	20,881	3,159	20.00	$5,614	$0	$20,007	28%	10.0	7.2	22,537	7.13	6.78	$0.00	$0.00	89%	21	22	21	22	87%	100%
Computer Efficiency																										
Upstream Manufacturer Incentives	Desktop PC; ENERGY STAR 5.0 with 80 Plus BRONZE level power supply	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Bronze level powe supply	51	7,311	desktop computer meeting ENERGY STAR version 3.0 with a standard efficiency powe supply	89	7,311	5.00	$0	$600	$9	0%	0.6	0.6	279	0.04	0.04	$0.00	$0.00	100%	1,534	15,340	1,184	11,840	88%	100%
Upstream Manufacturer Incentives	Desktop PC; ENERGY STAR 5.0 with 80 Plus SILVER level power supply	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Silver level power supply	51	7,311	desktop computer meeting ENERGY STAR version 3.0 with a standard efficiency powe supply	89	7,311	5.00	$0	$600	$18	0%	1.1	1.1	281	0.04	0.04	$0.00	$0.00	100%	0	0	0	0	88%	100%
Upstream Manufacturer Incentives	Desktop PC; ENERGY STAR 5.0 with 80 Plus GOLD level power supply	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Gold level power supply	50	7,311	desktop computer meeting ENERGY STAR version 3.0 with a standard efficiency powe supply	89	7,311	5.00	$0	$600	$27	0%	1.6	1.6	282	0.04	0.04	$0.00	$0.00	100%	900	9,000	1,125	11,250	88%	100%
Upstream Manufacturer Incentives	Desktop PC; ENERGY STAR 5.0 with 80 Plus PLATINUM level power supply	desktop computer meeting ENERGY STAR version 5.0 spec with an 80 Plus Platinum level power supply	50	7,311	desktop computer meeting ENERGY STAR version 3.0 with a standard efficiency powe supply	89	7,311	5.00	$0	$600	$36	0%	2.2	2.2	283	0.04	0.04	$0.00	$0.00	100%	225	2,250	500	5,000	88%	100%
Desktop PC Virtualization	Thin-client or zero-client solution, 1 device per 1 desktop	Server & software at data center along with thin-client or zero-client device replaces desktop CPU (VM Ware w/ Wyse thin-client system, Pano-Logic zero-client system); meeting Energy Star 5.0 specification	23	7,311	Desktop computers meeting ENERGY STAR 3.0 specifications	89	7,311	10.00	$60	$600	$117	51%	2.0	1.0	486	0.07	0.07	$30.50	$0.00	100%	7	700	7	900	92%	100%
Cooling Efficiency																										
RTU < 5.4 tons	Rooftop Units less than 5.4 tons	RTU size 4.3 tons, 15.5 SEER, 13.2 EER	3,909	879	RTU size 4.3 tons, 13 SEER, 11.05 EER	4,670	879	20.00	$387	$4,500	$600	65%	4.0	1.4	668	0.76	0.73	$0.00	$0.00	90%	5	5	5	5	80%	100%
RTU 5.5-11.3 tons	Rooftop Units 5.5-11.3 tons	RTU size 8.4 tons, 14.2 SEER, 12.1 EER	8,331	897	RTU size 8.4 tons, 12.9 SEER, 11 EER	9,164	897	20.00	$798	$13,500	$2,500	32%	15.1	10.3	747	0.83	0.80	$0.00	$0.00	90%	35	50	35	50	80%	100%
RTU 11.4-19.9 tons	Rooftop Units11.4-19.9 tons	RTU size 14.5 tons, 13.6 SEER, 11.6 EER	15,000	852	RTU size 14.5 tons, 12.7 SEER, 10.8 EER	16,111	852	20.00	$1,015	$22,500	$3,750	27%	17.1	12.5	947	1.11	1.07	$0.00	$0.00	90%	35	50	35	50	80%	100%
RTU 20-60.3 tons	Rooftop Units 20-63.3 tons	RTU size 29.8 tons, 12.7 SEER, 10.8 EER	33,111	908	RTU size 29.8 tons, 11.5 SEER, 9.8 EER	36,490	908	20.00	$2,235	$45,000	$7,500	30%	11.1	7.8	3,068	3.38	3.25	$0.00	$0.00	90%	45	55	45	55	80%	100%
RTU > 63.3 tons	Rooftop Units greater than 63.3 tons	RTU size 71.108 tons, 11.8 SEER, 10.02 EER	85,159	4,578	RTU size 71.108 tons, 9.2 SEER, 9.5 EER	89,821	4,578	20.00	$5,049	$187,500	$31,250	16%	20.2	17.0	21,339	4.66	4.49	$0.00	$0.00	90%	50	55	50	55	80%	100%
Split Systems <5.4 tons	Split Systems less than 5.4 tons	Split System size 3.8 tons, 17.2 SEER, 14.6 EER	3,123	875	Split System size 3.8 tons, 13 SEER, 11 EER	4,145	875	20.00	$1,121	$5,100	$600	187%	3.0	-2.6	894	1.02	0.98	$0.00	$0.00	90%	10	13	10	13	80%	100%
Cond unit >5.4 tons	Condensing unit >5.4 tons	Condensing Units size 9.28571428571429 tons, 14.8 SEER, 12.6142857142857 EER	8,834	893	Condensing Units 9.28571428571429 tons, 12.9 SEER, 11 EER	10,130	893	20.00	$1,121	$25,000	$2,500	45%	9.7	5.4	1,158	1.30	1.25	$0.00	$0.00	90%	30	41	30	41	80%	100%
Water-source Heat Pump	Water-source Heat Pumps	Condensing Units size 3.8 tons, 17 SEER, 15.3 EER	2,980	135	Condensing Units 3.8 tons, 16.8235294117647 SEER, 14.3 EER	3,189	135	20.00	$627	$4,500	$750	84%	21.0	3.4	28	0.21	0.20	$0.00	$0.00	90%	6	50	6	50	80%	100%
PTAC	PTAC	Condensing Units size 0.75 tons, 13.8 SEER, 11.7 EER	769	903	Condensing Units 0.75 tons, 10.7 SEER, 9.1108 EER	988	903	20.00	$75	$1,125	$188	40%	4.3	2.6	197	0.22	0.21	$0.00	$0.00	90%	5	50	5	50	80%	100%
Chiller scroll-screw <150 tons	scroll/screw chiller < 150 tons	Chiller size 91.9 tons, 0.68 full load kW/ton, 0.62 IPLV	62,752	2,034	Chiller size 91.9 tons, 0.78 full load kW/ton, 0.62 IPLV	71,223	2,034	20.00	$5,136	$75,000	$12,500	41%	6.2	3.6	17,228	8.47	8.15	$0.00	$0.00	90%	1	2	1	2	80%	100%
Chiller scroll-screw 150-300 tons	scroll/screw chiller 150 to 300 tons	Chiller size 256.08 tons, 0.57 full load kW/ton, 0.44 IPLV	146,523	1,283	Chiller size 256.08 tons, 0.68 full load kW/ton, 0.58 IPLV	174,134	1,283	20.00	$10,362	$96,000	$16,000	65%	2.7	1.0	35,427	27.61	26.58	$0.00	$0.00	90%	1	2	1	2	80%	100%
Centrifigual Chiller <150 tons	Centrifugal Chillers < 150 tons	Chiller size 101.55 tons, 0.53 full load kW/ton, 0.52 IPLV	53,822	776	Chiller size 101.55 tons, 0.63 full load kW/ton, 0.60 IPLV	64,383	776	20.00	$4,293	$75,000	$12,500	34%	6.1	4.0	8,195	10.56	10.17	$0.00	$0.00	90%	6	7	6	7	80%	100%
Centrifigual Chiller 150-300 tons	Centrifugal Chillers 150- 300 tons	Chiller size 263.8 tons, 0.61 full load kW/ton, 0.41 IPLV	160,871	7,588	Chiller size 263.8 tons, 0.63 full load kW/ton, 0.60 IPLV	167,249	7,588	20.00	$10,997	$120,000	$20,000	55%	7.1	3.2	48,395	6.38	6.14	$0.00	$0.00	90%	8	9	8	9	80%	100%
Centrifigual Chiller >300 tons	Centrifugal Chillers > 300 tons	Chiller size 663.2 tons, 0.45 full load kW/ton, 0.34 IPLV	299,121	1,655	Chiller size 663.2 tons, 0.57 full load kW/ton, 0.54 IPLV	378,024	1,655	20.00	$41,558	$540,000	$90,000	46%	5.0	2.7	130,613	78.90	75.95	$0.00	$0.00	90%	15	15	15	15	80%	100%
Air-cooled Chiller	Air-Cooled Chillers	Air cooled chiller size 98.6 tons, 11.5 EER, 14.0 SEER	277,972	402	Air cooled chiller size 98.6 tons, 9.6 EER, 12.8 SEER	298,743	402	20.00	$6,149	$250,000	$8,608	71%	2.3	0.7	8,350	20.77	19.99	$0.00	$0.00	90%	13	13	13	13	80%	100%
Advanced Evaporative Cooler	Advanced Evaporative Cooling (Indirect or Hybrid) - TOTAL	Indirect or Hybrid Evaporative Cooler	6,417	764	Standard DX Roof-top Unit	17,878	764	20.00	$6,885	$14,063	$24,767	28%	18.3	13.2	8,761	11.46	11.03	-$871.46	$0.00	90%	6	24	6	24	80%	100%
Chiller VSD	Replace constant speed motor control with VSD motor control on existing chiller.	Chiller size 378 tons, 0.58 full load kW/ton, 0.43 IPLV	160,881	1,002	Chiller size 378 tons, 0.59 full load kW/ton, 0.57 IPLV	214,889	1,002	20.00	$8,101	$0	$27,172	30%	2.5	1.7	54,142	54.01	4.81	$0.00	$0.00	8%	4	4	4	4	80%	100%
Water-side Economizer (HX)	Plate & Frame Heat Exchangers	Install plate & frame heat exchanger to allow cooling tower to meet cooling load	38,357	8,760	Chiller-based cooling	55,208	8,760	20.00	$28,267	$0	$68,303	41%	8.4	4.9	147,615	16.85	0.00	$0.00	$0.00	0%	6	6	8	8	80%	100%
Cooling Studies	Cooling Studies	Customer has study	0	0	No Study	0	0	0.00	$2,001	$0	$2,668	75%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	7	7	7	7	80%	100%
Custom Cooling	Custom Cooling	Varies by project	177,155	2,998	Varies by project	241,815	2,998	19.66	$25,864	$133,759	$62,429	41%	3.5	2.1	193,872	64.66	11.67	$0.00	$0.00	17%	13	13	14	14	87%	100%
Custom Efficiency																										
Custom	Custom Efficiency Measure	New Equipment	803,545	5,419	Old or less efficient systems or equipment	841,263	5,419	18.50	$12,289	$0	$53,316	23%	3.1	2.4	204,390	37.72	20.60	$1,722.46	$1,722.46	51%	34	40	38	46	87%	100%
Data Center Efficiency																										
Data Center Studies	Data Center Efficiency Study <= 5000 sq ft	0	0	0	0	0	0	0.00	$16,301	$0	$21,735	75%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	3	3	5	5	100%	0%
Data Center Studies	Data Center Efficiency Study > 5000 sq ft	0	0	0	0	0	0	0.00	$40,289	$0	$53,718	75%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	4	4	6	6	100%	0%
Data Centers - 9201 avg. sq ft	Data Center Bundled Project Implementation	Multiple Energy Conservation Measures Implemented	760,144	7,743	Existing Data Center Facility or New Facility with Standard Systems	941,262	7,743	12.00	$48,510	$0	$585,298	8%	1.0	0.9	1,402,321	181.12	163.63	$498,102.71	$0.00	84%	1	1	2	2	100%	100%
Data Center Custom Measures	Historical Averages from past custom projects	Historical Averages from past custom projects	521,265	8,480	Historical Averages from past custom projects	676,857	8,480	10.00	$62,355	$316,563	$240,596	26%	3.1	2.3	1,319,482	155.59	98.41	$5,487.04	-$1,676.22	59%	4	4	5	5	87%	100%
Energy Management Systems																										
Energy Management Systems	Average Projects	Install new or Add to Existing EMS	920,428	5,505	No or very old EMS system	950,047	5,505	15.00	$15,577	$0	$48,276	32%	3.7	2.5	163,047	29.62	4.99	$1,206.91	$1,168.73	16%	56	56	62	62	87%	100%
Lighting Efficiency																										
Prescriptive Retrofit Lighting	T8 Ballasts, 4 ft. or less, 1 and 2 lamp - Low Ballast Factor	T8 1 and 2 Lamp systems	55	4,129	T12 1 and 2 Lamp systems, incandescents	96	4,129	18.00	$13	$0	$43	30%	3.6	2.5	167	0.04	0.04	-$0.78	$0.00	84%	65	21,000	13	4,200	84%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, 4 ft. or less, 1 and 2 lamp - Normal & High Ballast Factor	T8 1 and 2 Lamp systems	57	4,129	T12 1 and 2 Lamp systems, incandescents	90	4,129	18.00	$9	$0	$43	21%	4.4	3.5	136	0.03	0.03	-$0.64	$0.00	84%	38	15,000	8	3,000	84%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, 4 ft. or less, 3 and 4 lamp - Low Ballast Factor	T8 Lighting Systems	108	4,129	T12 3 and 4 Lamp systems	171	4,129	18.00	$22	$0	$55	40%	2.9	1.8	261	0.06	0.06	-$1.22	$0.00	84%	77	16,000	15	3,200	84%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, 4 ft. or less, 3 and 4 lamp - Normal & High Ballast Factor	T8 3 and 4 Lamp systems	109	4,129	T12 3 and 4 Lamp systems, incandescents	160	4,129	18.00	$15	$0	$59	26%	3.9	2.9	210	0.05	0.05	-$0.99	$0.00	84%	43	11,000	9	2,200	84%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, Length > 4 ft. and <= 8 ft., 1 lamp - Low Ballast Factor	T8 1 and 2 Lamp systems	62	4,129	T12 8 Ft 1 Lamp systems	122	4,129	18.00	$13	$0	$93	14%	5.3	4.6	247	0.06	0.05	-$1.16	$0.00	84%	2	438	1	88	84%	100%

Electric Planning Assumptions																								
Measure Description		High Efficiency Product Assumptions			Baseline Product Assumptions			Economic Assumptions				Stipulated Output						Economic Assumptions		Technical Assumption	2012		2013			
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Prescriptive Retrofit Lighting	T8 Ballasts, Length > 4 ft. and <= 8 ft., 1 lamp - Normal & High Ballast Factor	T8 Lighting Systems	76	4,129	T12 8ft 1 Lamp Systems	131	4,129	18.00	$9	$0	$171	5%	10.5	10.0	227	0.06	0.05	-$1.06	$0.00	84%	2	438	1	88	84%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, Length > 4 ft. and <= 8 ft., 2 lamp - Low Ballast Factor	T8 Lighting Systems	122	4,129	T12 8 Ft 2 Lamp systems	206	4,129	18.00	$22	$0	$103	21%	4.1	3.3	349	0.08	0.00	-$1.64	$0.00	0%	2	250	1	50	84%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, Length > 4 ft. and <= 8 ft., 2 lamp - Normal & High Ballast Factor	T8 Lighting Systems	151	4,129	T12 8ft 2 Lamp Systems	224	4,129	18.00	$15	$0	$171	9%	7.9	7.3	301	0.07	0.07	-$1.41	$0.00	84%	1	250	1	50	84%	100%
Prescriptive Retrofit Lighting	T8 to T8 Delamping	T8 with less lamps	65	4,129	T8 with more lamps	117	4,129	18.00	$12	$0	$43	28%	2.8	2.0	215	0.05	0.05	-$1.01	$0.00	84%	6	1,400	18	4,500	84%	100%
Prescriptive Retrofit Lighting	T8 Optimization 1 and 2 Lamp	T8 Lighting Systems	69	4,129	T12 Fluorescents	132	4,129	18.00	$20	$0	$43	47%	2.3	1.2	262	0.06	0.06	-$1.23	$0.00	84%	184	38,000	37	7,600	84%	100%
Prescriptive Retrofit Lighting	T8 Optimization 3 and 4 Lamp	T8 Lighting Systems	111	4,129	T12 Fluorescents	194	4,129	18.00	$26	$0	$56	46%	2.3	1.2	343	0.08	0.07	-$1.61	$0.00	84%	73	11,500	15	2,300	84%	100%
Prescriptive Retrofit Lighting	T5 Ballasts 1 and 2 Lamp	T5 Lighting Systems	98	4,129	T12 Fluorescents	132	4,129	18.00	$13	$0	$37	35%	3.6	2.3	142	0.03	0.03	-$0.66	$0.00	84%	3	1,200	1	300	84%	100%
Prescriptive Retrofit Lighting	T5 Ballasts 3 and 4 Lamp	T5 Lighting Systems	143	4,129	T12 Fluorescents	162	4,129	18.00	$16	$0	$69	23%	12.4	9.5	77	0.02	0.02	-$0.36	$0.00	84%	1	200	1	40	84%	100%
Prescriptive Retrofit Lighting	CFL Pin-Based < 19W Retrofit	Pin-Based CFL	20	4,129	Incandescent	83	4,129	18.00	$25	$0	$38	65%	2.0	0.7	260	0.06	0.06	-$1.22	$0.00	84%	4	800	4	850	84%	100%
Prescriptive Retrofit Lighting	CFL Pin-Based 19 to 32W Retrofit	Pin-Based CFL	43	4,129	Incandescent	153	4,129	18.00	$30	$0	$76	39%	2.3	1.4	454	0.11	0.10	-$2.13	$0.00	84%	12	1,450	16	1,850	84%	100%
Prescriptive Retrofit Lighting	CFL Pin-Based 33 to 100W Retrofit	Pin-Based CFL	72	4,129	Incandescent	257	4,129	18.00	$35	$0	$103	34%	1.9	1.2	762	0.18	0.17	-$3.57	$0.00	84%	20	1,410	21	1,510	84%	100%
Prescriptive Retrofit Lighting	Industrial Multi-CFL	Hardwired or Modular Multi-CFL	99	4,129	Mercury Vapor, High Pressure Sodium, Metal Halide	313	4,129	18.00	$45	$0	$98	46%	1.5	0.8	887	0.21	0.19	-$4.16	$0.00	84%	1	20	1	25	84%	100%
Prescriptive Retrofit Lighting	HID, 151 to 250W	Metal Halide	291	4,129	Mercury Vapor, High Pressure Sodium	423	4,129	18.00	$30	$0	$161	19%	4.2	3.4	542	0.13	0.12	-$2.54	$0.00	84%	1	40	1	50	84%	100%
Prescriptive Retrofit Lighting	HID, 251 to 1000W	Metal Halide	590	4,129	Mercury Vapor, High Pressure Sodium	1,397	4,129	18.00	$45	$0	$253	18%	1.1	0.9	3,332	0.81	0.73	-$15.61	$0.00	84%	4	60	5	75	84%	100%
Prescriptive Retrofit Lighting	Pulse-Start Metal Halide, <= 175W	Pulse Start Metal Halide	233	4,129	Metal Halide	402	4,129	18.00	$25	$0	$161	16%	3.2	2.7	695	0.17	0.15	-$3.26	$0.00	84%	1	45	1	45	84%	100%
Prescriptive Retrofit Lighting	Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	258	4,129	Metal Halide	376	4,129	18.00	$50	$0	$185	27%	5.3	3.8	490	0.12	0.11	-$2.30	$0.00	84%	1	160	1	160	84%	100%
Prescriptive Retrofit Lighting	Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide	508	4,129	Metal Halide	589	4,129	18.00	$45	$0	$283	16%	11.7	9.8	338	0.08	0.07	-$1.58	$0.00	84%	4	630	4	630	84%	100%
Prescriptive Retrofit Lighting	Pulse-Start Metal Halide, 750W+	Pulse Start Metal Halide	1,053	4,129	Metal Halide	1,404	4,129	18.00	$140	$0	$381	37%	3.7	2.3	1,451	0.35	0.32	-$6.80	$0.00	84%	5	200	4	150	84%	100%
Prescriptive Retrofit Lighting	Parking Garages	T8 or T5 Fluorescent	97	8,760	150W Metal Halide or 175W Metal Halide	179	8,760	18.00	$50	$0	$182	27%	4.6	3.3	720	0.08	0.09	$0.00	$0.00	100%	13	2,000	28	4,500	84%	100%
Prescriptive Retrofit Lighting	High Bay Fluorescents replacing 150, 175, 250 Watt HID	High Bay Fluorescent <= 200 watts	188	4,129	HID: 150, 175, 250W Lamp	365	4,129	18.00	$85	$0	$190	45%	3.6	2.0	729	0.18	0.16	-$3.42	$0.00	84%	29	2,150	43	3,181	84%	100%
Prescriptive Retrofit Lighting	High Bay Fluorescents replacing 320, 350, 400 Watt HID	High Bay Fluorescents <= 300 Watts	331	4,129	HID: 320, 350, 400W Lamp	538	4,129	18.00	$110	$0	$256	43%	4.2	2.4	855	0.21	0.19	-$4.01	$0.00	84%	71	4,500	114	7,175	84%	100%
Prescriptive Retrofit Lighting	High Bay Fluorescents replacing 750 Watt HID	High Bay Fluorescents <= 610 Watts	592	4,129	HID: 750W Lamp	1,099	4,129	18.00	$200	$0	$377	53%	2.5	1.2	2,094	0.51	0.46	-$9.81	$0.00	84%	16	400	52	1,342	84%	100%
Prescriptive Retrofit Lighting	High Bay Fluorescents replacing 1000 Watt HID	High Bay Fluorescents <= 900 Watts	909	4,129	HID: 1000W Lamp	1,397	4,129	18.00	$210	$0	$457	46%	3.2	1.7	2,012	0.49	0.44	-$9.43	$0.00	84%	7	200	28	759	84%	100%
Prescriptive Retrofit Lighting	Wall mount occupancy sensor	Lighting System with Occupancy Sensor	192	4,129	Lighting System without Occupancy Sensor	275	4,129	18.00	$30	$0	$55	55%	2.3	1.0	340	0.08	0.07	-$1.59	$0.00	84%	52	8,180	54	8,590	84%	100%
Prescriptive Retrofit Lighting	Ceiling mount occupancy sensor	Lighting System with Occupancy Sensor	192	4,129	Lighting System without Occupancy Sensor	275	4,129	18.00	$50	$0	$125	40%	5.1	3.1	340	0.08	0.07	-$1.59	$0.00	84%	45	7,100	47	7,455	84%	100%
Prescriptive Retrofit Lighting	Photocell	Lighting System with Photocell	178	4,129	Lighting System without Photocell	275	4,129	18.00	$30	$0	$65	46%	2.3	1.2	399	0.10	0.09	-$1.87	$0.00	84%	1	150	1	110	84%	100%
Prescriptive Retrofit Lighting	Exit sign retrofit and replacement	LED	2	8,760	Incandescent	45	8,760	18.00	$15	$0	$80	19%	4.0	3.3	376	0.04	0.05	-$0.83	$0.00	100%	10	3,000	13	4,000	84%	100%
Prescriptive Retrofit Lighting	Low Wattage T8 4' lamps	T8 25W and 28W Lamps	28	4,129	T8 32W Lamps	35	4,129	6.16	$1	$2	$2	50%	1.0	0.5	29	0.01	0.01	-$0.14	$0.00	84%	91	170,000	91	170,000	84%	100%
Prescriptive Retrofit Lighting	Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	32	4,129	Incandescent	97	4,129	7.00	$25	$0	$57	44%	3.0	1.7	267	0.06	0.06	-$1.25	$0.00	84%	3	550	3	550	84%	100%
Prescriptive Retrofit Lighting	Ceramic Metal Halide <=150W	Ceramic Metal Halide	41	4,129	Incandescent	154	4,129	18.00	$55	$0	$202	27%	6.0	4.4	466	0.11	0.10	-$2.18	$0.00	84%	1	83	1	83	84%	100%
Prescriptive Retrofit Lighting	Ceramic Metal Halide 151-250W	Ceramic Metal Halide	288	4,129	Incandescent	508	4,129	18.00	$60	$0	$222	27%	3.4	2.5	906	0.22	0.20	-$4.25	$0.00	84%	1	56	1	56	84%	100%
Prescriptive Retrofit Lighting	Ceramic Metal Halide 251W-	Ceramic Metal Halide	506	4,129	Metal Halide	840	4,129	18.00	$75	$0	$292	26%	3.0	2.2	1,377	0.33	0.30	-$6.45	$0.00	84%	1	28	1	28	84%	100%
Prescriptive Retrofit Lighting	LED Interior Lamp < 5W	LED lamp	6	4,129	Incandescent or Halogen lamp	59	4,129	10.90	$20	$6	$34	59%	2.1	0.9	223	0.05	0.05	-$1.04	$0.00	84%	6	1,500	7	1,750	84%	100%
Prescriptive Retrofit Lighting	LED Interior Lamp 6W - 10W	LED lamp	8	4,129	Incandescent or Halogen lamp	52	4,129	11.53	$22	$5	$40	55%	3.1	1.4	181	0.04	0.04	-$0.85	$0.00	84%	5	1,500	6	1,750	84%	100%
Prescriptive Retrofit Lighting	LED Interior Lamp 11W - 20W	LED lamp	17	4,129	Incandescent or Halogen lamp	117	4,129	10.90	$35	$5	$65	54%	2.2	1.0	414	0.10	0.09	-$1.94	$0.00	84%	7	900	8	1,000	84%	100%
Prescriptive Retrofit Lighting	LED Interior Fixture Retrofit < 15W	LED Downlight Luminaire	15	4,129	Incandescent Luminaire	52	4,129	20.00	$100	$0	$193	52%	18.0	8.7	150	0.04	0.03	-$0.70	$0.00	85%	2	750	2	800	84%	100%
Prescriptive Retrofit Lighting	LED Interior Fixture Retrofit 16W - 25W	LED Downlight Luminaire	28	4,129	Incandescent Luminaire	78	4,129	20.00	$100	$0	$199	50%	13.6	6.8	205	0.05	0.04	-$0.96	$0.00	84%	2	500	2	600	84%	100%
Prescriptive Retrofit Lighting	LED Interior Fixture Retrofit 26W - 35W	LED Downlight Luminaire	38	4,129	Incandescent Luminaire	97	4,129	20.00	$125	$0	$272	46%	15.7	8.5	242	0.06	0.05	-$1.14	$0.00	84%	2	500	3	600	84%	100%
Prescriptive Retrofit Lighting	LED Interior Fixture Retrofit 36W - 50W	LED Downlight Luminaire	56	4,129	Incandescent Luminaire	129	4,129	20.00	$125	$0	$272	46%	12.5	6.8	304	0.07	0.07	-$1.43	$0.00	84%	3	500	3	500	84%	100%
Prescriptive Retrofit Lighting	LED Canopy or Soffit lighting 25W - 50W; Retrofit - Total	LED	39	4,380	Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Mercury Vapor	209	4,380	6.00	$275	$0	$668	41%	12.1	7.1	746	0.17	0.00	$0.00	$0.00	0%	1	100	2	150	84%	100%
Prescriptive Retrofit Lighting	LED Canopy or Soffit lighting 51W - 100W; Retrofit - Total	LED	69	4,380	Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Mercury Vapor	359	4,380	5.29	$275	$0	$642	43%	6.8	3.9	1,271	0.29	0.00	$0.00	$0.00	0%	4	200	4	200	84%	100%
Prescriptive Retrofit Lighting	LED Canopy or Soffit lighting 100W - 150W; Retrofit Total	LED	130	4,380	Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Mercury Vapor	426	4,380	18.00	$275	$0	$654	42%	6.8	3.9	1,298	0.30	0.00	$0.00	$0.00	0%	2	75	2	75	84%	100%
Prescriptive Retrofit Lighting	LED Refrigerated Cases - Retrofit	LED Strip lighting	41	8,760	T8 or T12 Fluorescent	101	8,760	18.00	$100	$0	$171	58%	5.9	2.5	529	0.06	0.06	$0.00	$0.00	94%	14	3,000	18	4,000	84%	100%
Prescriptive Retrofit Lighting	Parking Garage Low Wattage Lamps	T8 25W and 28W Lamps	28	8,760	T8 32W Lamps	35	8,760	3.42	$1	$2	$4	25%	1.2	0.9	62	0.01	0.01	$0.00	$0.00	100%	1	0	1	0	84%	100%
Prescriptive New Construction Lighting	LED Interior Lamp < 5W	LED parabolic or MR16 lamp	6	4,129	Incandescent or Halogen lamp	59	4,129	10.90	$20	$6	$34	59%	2.1	0.9	223	0.05	0.05	-$1.04	$0.00	84%	1	120	2	450	84%	100%
Prescriptive New Construction Lighting	LED Interior Lamp 6W - 10W	LED parabolic or MR16 lamp	8	4,129	Incandescent or Halogen lamp	52	4,129	11.53	$22	$5	$40	55%	3.1	1.4	181	0.04	0.04	-$0.85	$0.00	84%	1	85	2	450	84%	100%
Prescriptive New Construction Lighting	LED Interior Lamp 11W - 20W	LED parabolic or MR16 lamp	17	4,129	Incandescent or Halogen lamp	117	4,129	10.90	$35	$5	$65	54%	2.2	1.0	414	0.10	0.09	-$1.94	$0.00	84%	1	60	1	150	84%	100%
Prescriptive New Construction Lighting	LED Interior Fixture NC < 15W	LED Downlight Luminaire	15	4,129	Incandescent Luminaire	52	4,129	18.00	$50	$50	$123	40%	10.8	6.4	150	0.04	0.03	$0.00	$0.00	84%	1	80	1	200	84%	100%
Prescriptive New Construction Lighting	LED Interior Fixture NC 16W - 25W	LED Downlight Luminaire	28	4,129	Incandescent Luminaire	78	4,129	18.00	$50	$50	$129	39%	8.3	5.1	205	0.05	0.04	$0.00	$0.00	84%	1	60	1	150	84%	100%
Prescriptive New Construction Lighting	LED Interior Fixture NC 26W - 35W	LED Downlight Luminaire	38	4,129	Incandescent Luminaire	97	4,129	18.00	$75	$50	$202	37%	10.9	6.9	242	0.06	0.05	$0.00	$0.00	84%	1	60	1	150	84%	100%
Prescriptive New Construction Lighting	LED Interior Fixture NC 36W - 50W	LED Downlight Luminaire	56	4,129	Incandescent Luminaire	129	4,129	18.00	$75	$50	$202	37%	8.7	5.5	304	0.07	0.07	$0.00	$0.00	84%	1	60	1	125	84%	100%
Prescriptive New Construction Lighting	LED Refrigerated Cases - New Construction	LED Strip lighting	30	8,760	T8 Fluorescent	101	8,760	18.00	$70	$38	$136	52%	4.0	1.9	620	0.07	0.07	$0.00	$0.00	94%	2	300	2	450	84%	100%
Prescriptive New Construction Lighting	LED Canopy or Soffit lighting 25W - 50W; New Construction	LED	43	4,380	Pulse Start Metal Halide	240	4,380	18.00	$150	$192	$448	33%	7.0	4.7	863	0.20	0.00	$0.00	$0.00	0%	1	30	1	75	84%	100%
Prescriptive New Construction Lighting	LED Canopy or Soffit lighting 51W - 100W; New Construction	LED	74	4,380	Pulse Start Metal Halide	349	4,380	18.00	$150	$282	$315	48%	3.5	1.8	1,205	0.28	0.00	$0.00	$0.00	0%	1	60	2	90	84%	100%
Prescriptive New Construction Lighting	LED Canopy or Soffit lighting 100W - 150W; New Construction	LED	130	4,380	Pulse Start Metal Halide	342	4,380	18.00	$150	$253	$420	36%	6.1	3.9	929	0.21	0.00	$0.00	$0.00	0%	1	30	1	60	84%	100%
Prescriptive New Construction Lighting	Low Wattage T8 Lamps	Low Wattage T8 Lamps	28	4,129	Standard T8 32 watt lamps	35	4,129	6.16	$1	$2	$2	50%	1.0	0.5	29	0.01	0.01	-$0.14	$0.00	84%	3	5,561	3	6,400	84%	100%
Prescriptive New Construction Lighting	High Bay Fluorescents <= 300 Watts	High Bay Fluorescents <= 300 Watts	308	4,129	Metal Halide	550	4,129	18.00	$12	$180	$102	12%	1.4	1.3	996	0.24	0.22	-$4.67	$0.00	84%	22	1,200	35	1,900	84%	100%
Prescriptive New Construction Lighting	High Bay Fluorescents <= 610 Watts	High Bay Fluorescents <= 610 Watts	536	4,129	Metal Halide	1,050	4,129	18.00	$40	$291	$132	30%	0.9	0.6	2,123	0.51	0.46	-$9.95	$0.00	84%	35	900	53	1,350	84%	100%
Prescriptive New Construction Lighting	High Bay Fluorescents <= 900 Watts	High Bay Fluorescents <= 900 Watts	878	4,129	Metal Halide	1,397	4,129	18.00	$50	$355	$169	30%	1.1	0.8	2,143	0.52	0.47	-$10.04	$0.00	84%	5	125	6	140	84%	100%
Prescriptive New Construction Lighting	Compact Fluorescent, Pin Based <19 Watts	Pin-Based CFL	20	4,129	Incandescent	83	4,129	18.00	$10	$18	$20	50%	1.1	0.5	260	0.06	0.06	-$1.22	$0.00	84%	1	80	1	80	84%	100%
Prescriptive New Construction Lighting	Compact Fluorescent, Pin Based 19-32 Watts	Pin-Based CFL	43	4,129	Incandescent	153	4,129	18.00	$15	$36	$40	38%	1.2	0.8	454	0.11	0.10	-$2.13	$0.00	84%	1	50	1	80	84%	100%

Electric Planning Assumptions																									
Measure Description		High Efficiency Product Assumptions			Baseline Product Assumptions			Economic Assumptions				Stipulated Output						Economic Assumptions		Technical Assumption	2012		2013			
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Prescriptive New Construction Lighting	Compact Fluorescent, Pin Based 33-100 Watts	Pin-Based CFL	72	4,129	Incandescent	257	4,129	18.00	$20	$53	$50	40%	0.9	0.5	762	0.18	0.17	-$3.57	$0.00	84%	1	70	1	75	84%	100%
Prescriptive New Construction Lighting	Ceramic Metal Halide Integrated 25W	Ceramic Metal Halide Integrated 25W	25	4,129	Incandescent	83	4,129	7.00	$12	$12	$45	27%	2.6	1.9	239	0.06	0.05	-$1.12	$0.00	84%	1	150	1	150	84%	100%
Prescriptive New Construction Lighting	Ceramic Metal Halide <= 150 Watts	Ceramic Metal Halide <= 150 Watts	66	4,129	Incandescent	229	4,129	18.00	$25	$59	$145	17%	3.0	2.5	674	0.16	0.15	-$3.16	$0.00	84%	1	60	1	90	84%	100%
Prescriptive New Construction Lighting	Ceramic Metal Halide 151 to 250 Watts	Ceramic Metal Halide 151 to 250 Watts	300	4,129	Metal Halide	483	4,129	18.00	$15	$192	$98	15%	1.8	1.5	756	0.18	0.16	-$3.54	$0.00	84%	1	46	1	70	84%	100%
Prescriptive New Construction Lighting	Ceramic Metal Halide NC > 251 Watts	Ceramic Metal Halide NC > 251 Watts	505	4,129	Metal Halide	590	4,129	18.00	$20	$253	$42	48%	1.7	0.9	348	0.08	0.08	-$1.63	$0.00	84%	1	19	1	28	84%	100%
Custom Lighting	Custom Lighting Project	High Efficiency Lighting	0	4,799	Existing Lower Efficiency Lighting	22,217	4,799	15.30	$7,760	$1,669	$30,422	26%	4.3	3.2	106,626	22.22	20.71	-$429.78	$0.00	87%	100	100	128	128	96%	100%
Lighting Redesign Projects	Lighting Redesign Implementation	Improved Light Levels	91,448	5,800	Excessive Light Levels	159,132	5,800	18.00	$25,800	$0	$105,290	25%	4.4	3.3	392,581	67.68	61.24	-$1,309.35	$0.00	85%	2	2	4	4	96%	100%
Lighting Redesign Study	Lighting Redesign Study	0	0	0	0	0	0	0.00	$12,796	$0	$18,800	68%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	14	14	16	16	96%	100%
Motor and Drive Efficiency																										
Prescriptive	Plan A Enhanced (1 to 500 HP)	NEMA Premium plus 1% Efficient Motors	2,273	2,956	NEMA Premium	2,299	2,956	20.00	$75	$856	$345	22%	49.7	38.9	75	0.03	0.02	$0.00	$0.00	78%	23	24	31	32	65%	100%
Prescriptive	Plan B (1 to 500 HP)	NEMA Premium Efficient Motors	14,721	4,149	EPACT	14,963	4,149	20.00	$1,001	$830	$1,682	60%	22.0	8.9	1,003	0.24	0.20	$0.00	$0.00	78%	351	702	379	758	65%	100%
Prescriptive	Plan B Enhanced (1 to 500 HP)	NEMA Premium plus 1% Efficient Motors	8,710	3,855	EPACT	8,976	3,855	20.00	$1,284	$652	$1,897	68%	23.4	7.6	1,023	0.27	0.22	$0.00	$0.00	78%	37	56	39	58	65%	100%
Prescriptive	VFD	Equipment coupled with an ASD/VFD	10,038	4,674	Equipment without an ASD/VFD	14,982	4,674	15.00	$2,877	$0	$5,620	51%	3.4	1.7	23,106	4.94	4.12	$0.00	$0.00	78%	556	1,111	590	1,180	65%	100%
Prescriptive	Motor Controllers	Motor with Voltage Controller	4,601	4,483	Motor without Voltage Controller	6,069	4,483	20.00	$507	$0	$1,311	39%	2.7	1.7	6,582	1.47	1.22	$0.00	$0.00	78%	59	117	70	140	95%	100%
Prescriptive	EC Motor	ECM Motors for Evaporators	37	8,627	Shaded Pole or Perm. Split Cap	102	8,627	15.00	$52	$0	$124	42%	4.1	2.4	555	0.06	0.07	$0.00	$0.00	100%	560	2,640	810	5,160	95%	100%
Custom	Custom	New Equipment	258,802	3,463	Existing or New Inefficient	310,534	3,463	15.05	$20,246	$49,761	$71,363	28%	4.7	3.4	179,138	51.73	27.18	$0.00	$0.00	49%	4	4	5	5	65%	100%
New Construction																										
Energy Design Assistance 2012	Standard Track	More Efficient than Code Building	436,577	2,939	Code-Compliant Building (IECC 2006)	599,633	2,939	20.00	$51,749	$0	$251,109	21%	5.7	4.5	479,223	163.06	161.83	$0.00	$0.00	93%	27	27	0	0	90%	100%
Energy Design Assistance 2012	Enhanced Track	More Efficient than Code Building	194,617	3,055	Code-Compliant Building (IECC 2006)	309,617	3,055	20.00	$37,124	$0	$184,121	20%	5.8	4.6	351,382	115.00	114.14	$0.00	$0.00	93%	29	29	0	0	90%	100%
Energy Design Assistance 2013	Standard Track	More Efficient than Code Building	812,511	2,207	Code-Compliant Building (IECC 2006)	1,115,972	2,207	20.00	$104,707	$0	$350,900	30%	4.7	3.3	669,668	303.46	301.19	$0.00	$0.00	93%	0	0	22	22	90%	100%
Energy Design Assistance 2013	Enhanced Track	More Efficient than Code Building	290,869	2,992	Code-Compliant Building (IECC 2006)	462,744	2,992	20.00	$61,909	$0	$269,449	23%	5.7	4.4	514,225	171.88	170.59	$0.00	$0.00	93%	0	0	17	17	90%	100%
Energy Efficient Buildings	Average EEB Project	More Efficient than Code Building	102,348	1,649	Code-Compliant Building (IECC 2006)	140,573	1,649	20.00	$16,787	$0	$33,029	51%	3.8	1.9	63,034	38.23	37.94	$0.00	$0.00	93%	35	35	35	35	93%	100%
Process Efficiency																										
Process Efficiency	Average Project	New Equipment	19,205,298	6,143	Old or less efficient systems or equipment	19,243,365	6,143	17.00	$20,555	$0	$42,136	49%	2.9	1.5	233,848	38.07	17.72	-$407.25	$0.00	44%	12	49	15	77	90%	100%
Recommissioning																										
Recommissioning	Implementation	Implemented Recommisioning measures	410,448	6,571	Existing Systems	456,053	6,571	7.00	$2,201	$0	$9,248	24%	0.4	0.3	299,652	45.61	18.24	$1,285.87	$1,259.63	37%	18	18	18	18	90%	100%
Recommissioning	Study	Implemented Recommisioning measures	456,053	6,571	Existing Systems	456,053	6,571	0.00	$13,581	$0	$19,598	69%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	54	54	54	54	90%	100%
Low Temperature Refrigerated Cases	Post-Recommissioning Measures	Post-Recommissioning Measures	9,411	8,760	Pre-Recommissioning Measures	13,394	8,760	7.00	$1,195	$0	$3,105	38%	1.6	1.0	34,892	3.98	1.37	$0.00	$0.00	32%	7	13	6	12	90%	100%
High Temperature Refrigerated Cases	Post-Recommissioning Measures	Post-Recommissioning Measures	10,916	8,760	Pre-Recommissioning Measures	13,622	8,760	7.00	$812	$0	$2,109	38%	1.6	1.0	23,703	2.71	1.62	$0.00	$0.00	56%	7	13	6	12	90%	100%
Segment Efficiency																										
Commercial Real Estate	CRE Prescriptive Lighting	New Equipment	45,704	4,129	Old or less efficient equipment	53,770	4,129	18.00	$3,078	$0	$8,204	38%	3.4	2.1	33,306	8.07	7.25	-$132.60	$0.00	84%	13	13	14	14	97%	100%
Commercial Real Estate	CRE Prescriptive Motors/Drives	New Equipment/Install ASDs/VFDs	64,332	4,674	Old or less efficient equipment or equipment w/o ASDs/VFDs	82,356	4,674	15.00	$3,740	$0	$14,321	26%	2.4	1.8	84,233	18.02	15.04	$0.00	$0.00	78%	2	2	6	6	97%	100%
Commercial Real Estate	CRE Prescriptive Cooling	New higher efficiency	61,809	897	Old or less efficient	67,139	897	20.00	$1,037	$13,500	$2,500	41%	2.5	1.4	4,779	5.33	5.13	-$44.41	$0.00	90%	4	4	6	6	97%	100%
Commercial Real Estate	CRE Custom Lighting	New equipment	973,362	4,799	Old or less efficient equipment	1,024,592	4,799	15.30	$10,089	$0	$33,530	30%	2.0	1.4	245,868	51.23	47.75	-$978.85	$0.00	87%	2	2	4	4	97%	100%
Commercial Real Estate	CRE Custom Motors/Drives	New equipment/Install ASDs/VFDs	1,157,797	3,463	Old or less efficient equipment or equipment w/o ASDs/VFDs	1,218,733	3,463	15.05	$26,319	$49,761	$71,363	37%	4.0	2.5	211,010	60.94	32.01	$0.00	$0.00	49%	2	2	2	2	97%	100%
Commercial Real Estate	CRE Custom Cooling	New Higher Efficiency Equipment	1,171,445	2,998	Old or less efficient equipment	1,233,100	2,998	19.66	$33,623	$133,759	$62,429	54%	3.7	1.7	184,862	61.66	11.13	$0.00	$0.00	17%	2	2	2	2	97%	100%
Commercial Real Estate	CRE EMS	Install EMS	306,714	5,505	No EMS	322,857	5,505	15.00	$20,249	$0	$48,276	42%	2.0	1.2	88,863	16.14	2.72	$10,545.84	$7,490.94	16%	3	3	4	4	97%	100%
Commercial Real Estate	CRE Custom Custom	New higher efficiency	284,050	5,419	Old or less efficient	299,000	5,419	18.50	$15,976	$0	$53,316	30%	3.4	2.4	81,012	14.95	8.17	$8,889.80	$1,498.19	51%	1	1	2	2	97%	100%
Commercial Real Estate	CRE Recommissioning	Optimized Building Systems	295,921	6,571	Existing Building Systems - Not Tuned or Optimized	332,495	6,571	7.00	$2,861	$0	$9,248	31%	0.5	0.4	240,314	36.57	14.63	$1,285.87	$1,259.63	37%	1	1	3	3	97%	100%
Commercial Real Estate	Preliminary Report	0	0	0	0	0	0	0.00	$0	$0	$6,755	0%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	25	25	25	25	97%	100%
Commercial Real Estate	Investigative Study	0	0	0	0	0	0	0.00	$20,000	$0	$40,434	49%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	5	5	5	5	97%	100%
Self-Direct																										
Self-Direct	Average Project	New Equipment	828,135	2,876	Old or less efficient systems or equipment	1,150,184	2,876	17.00	$173,612	$0	$503,145	35%	5.8	3.8	926,303	322.05	216.02	$0.00	$0.00	63%	13	10	13	10	91%	100%
Small Business Lighting Efficiency																										
Prescriptive Retrofit Lighting	T8 Ballasts, 4 ft. or less, 1 and 2 lamp	T8 1 and 2 Lamp systems	55	4,129	T12 1 and 2 Lamp systems, incandescents	96	4,129	18.00	$13	$0	$43	30%	3.6	2.5	167	0.04	0.04	-$0.78	$0.00	84%	12	4,000	2	800	100%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, 4 ft. or less, 1 and 2 lamp - Normal & High Ballast Factor	T8 1 and 2 Lamp systems	57	4,129	T12 1 and 2 Lamp systems, incandescents	90	4,129	18.00	$9	$0	$43	21%	4.7	3.7	136	0.03	0.03	-$0.64	-$0.64	84%	5	2,100	1	400	100%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, 4 ft. or less, 3 and 4 lamp	T8 Lighting Systems	108	4,129	T12 3 and 4 Lamp systems	171	4,129	3.00	$22	$0	$55	40%	2.9	1.8	261	0.06	0.06	-$1.22	$0.00	84%	12	2,400	2	480	100%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, 4 ft. or less, 3 and 4 lamp - Normal & High Ballast Factor	T8 3 and 4 Lamp systems	109	4,129	T12 3 and 4 Lamp systems, incandescents	160	4,129	18.00	$15	$0	$59	26%	4.2	3.1	210	0.05	0.05	-$0.99	-$0.99	84%	8	2,000	2	400	100%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, Length > 4 ft. and <= 8 ft., 1 lamp	T8 1 and 2 Lamp systems	62	4,129	T12 8 Ft 1 Lamp systems	122	4,129	18.00	$13	$0	$93	14%	5.3	4.6	247	0.06	0.05	-$1.16	$0.00	84%	1	60	1	15	100%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, Length > 4 ft. and <= 8 ft., 1 lamp - Normal & High Ballast Factor	T8 Lighting Systems	76	4,129	T12 8ft 1 Lamp Systems	131	4,129	18.00	$9	$0	$171	5%	11.3	10.7	227	0.06	0.05	-$1.06	-$1.06	84%	1	60	1	15	100%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, Length > 4 ft. and <= 8 ft., 2 lamp	T8 Lighting Systems	122	4,129	T12 8 Ft 2 Lamp systems	206	4,129	18.00	$22	$0	$103	21%	4.1	3.3	349	0.08	0.00	-$1.64	$0.00	0%	1	60	1	15	100%	100%
Prescriptive Retrofit Lighting	T8 Ballasts, Length > 4 ft. and <= 8 ft., 2 lamp - Normal & High Ballast Factor	T8 Lighting Systems	151	4,129	T12 8ft 2 Lamp Systems	224	4,129	18.00	$15	$0	$171	9%	8.5	7.8	301	0.07	0.07	-$1.41	-$1.41	84%	1	60	1	15	100%	100%
Prescriptive Retrofit Lighting	T8 to T8 Delamping	T8 with less lamps	65	4,129	T8 with more lamps	117	4,129	18.00	$12	$0	$43	28%	2.8	2.0	215	0.05	0.05	-$1.01	$0.00	84%	1	300	16	4,000	100%	100%
Prescriptive Retrofit Lighting	T8 Optimization 1 and 2 Lamp	T8 Lighting Systems	69	4,129	T12 Fluorescents	132	4,129	18.00	$20	$0	$43	47%	2.3	1.2	262	0.06	0.06	-$1.23	$0.00	84%	7	1,500	1	300	100%	100%
Prescriptive Retrofit Lighting	T8 Optimization 3 and 4 Lamp	T8 Lighting Systems	111	4,129	T12 Fluorescents	194	4,129	18.00	$26	$0	$56	46%	2.3	1.2	343	0.08	0.07	-$1.61	$0.00	84%	3	500	1	100	100%	100%
Prescriptive Retrofit Lighting	T5 Ballasts 1 and 2 Lamp	T5 Lighting Systems	98	4,129	T12 Fluorescents	132	4,129	18.00	$13	$0	$37	35%	3.6	2.3	142	0.03	0.03	-$0.66	$0.00	84%	1	100	1	300	100%	100%
Prescriptive Retrofit Lighting	T5 Ballasts 3 and 4 Lamp	T5 Lighting Systems	143	4,129	T12 Fluorescents	162	4,129	18.00	$16	$0	$69	23%	12.4	9.5	77	0.02	0.02	-$0.36	$0.00	84%	1	100	1	300	100%	100%
Prescriptive Retrofit Lighting	CFL Pin-Based < 19W Retrofit	Pin-Based CFL	20	4,129	Incandescent	83	4,129	18.00	$25	$0	$38	65%	2.0	0.7	260	0.06	0.06	-$1.22	$0.00	84%	2	400	2	500	100%	100%
Prescriptive Retrofit Lighting	CFL Pin-Based 19 to 32W Retrofit	Pin-Based CFL	43	4,129	Incandescent	153	4,129	18.00	$30	$0	$76	39%	2.3	1.4	454	0.11	0.10	-$2.13	$0.00	84%	1	75	1	100	100%	100%
Prescriptive Retrofit Lighting	CFL Pin-Based 33 to 100W Retrofit	Pin-Based CFL	72	4,129	Incandescent	257	4,129	18.00	$35	$0	$103	34%	1.9	1.2	762	0.18	0.17	-$3.57	$0.00	84%	1	50	1	60	100%	100%
Prescriptive Retrofit Lighting	Industrial Multi-CFL	Hardwired or Modular Multi-CFL	99	4,129	Mercury Vapor, High Pressure Sodium, Metal Halide	313	4,129	18.00	$45	$0	$98	46%	1.5	0.8	887	0.21	0.19	-$4.16	$0.00	84%	1	5	1	10	100%	100%

Electric Planning Assumptions																											
Measure Description		High Efficiency Product Assumptions			Baseline Product Assumptions			Economic Assumptions				Stipulated Output						Economic Assumptions		Technical Assumption	2012		2013			
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Prescriptive Retrofit Lighting	HID, 151 to 250W	Metal Halide	291	4,129	Mercury Vapor, High Pressure Sodium	423	4,129	18.00	$30	$0	$161	19%	4.2	3.4	542	0.13	0.12	-$2.54	$0.00	84%	1	30	1	100	100%	100%
Prescriptive Retrofit Lighting	HID, 251 to 1000W	Metal Halide	590	4,129	Mercury Vapor, High Pressure Sodium	1,397	4,129	18.00	$45	$0	$253	18%	1.1	0.9	3,332	0.81	0.73	-$15.61	$0.00	84%	2	40	5	85	100%	100%
Prescriptive Retrofit Lighting	Pulse-Start Metal Halide, <= 175W	Pulse Start Metal Halide	233	4,129	Metal Halide	402	4,129	18.00	$25	$0	$161	16%	3.2	2.7	695	0.17	0.15	-$3.26	$0.00	84%	1	100	5	350	100%	100%
Prescriptive Retrofit Lighting	Pulse-Start Metal Halide, 176W-319W	Pulse Start Metal Halide	258	4,129	Metal Halide	376	4,129	18.00	$50	$0	$185	27%	5.3	3.8	490	0.12	0.11	-$2.30	$0.00	84%	1	100	2	200	100%	100%
Prescriptive Retrofit Lighting	Pulse-Start Metal Halide, 320W-749W	Pulse Start Metal Halide	508	4,129	Metal Halide	589	4,129	18.00	$45	$0	$283	16%	11.7	9.8	338	0.08	0.07	-$1.58	$0.00	84%	1	50	1	90	100%	100%
Prescriptive Retrofit Lighting	Pulse-Start Metal Halide, 750W+	Pulse Start Metal Halide	1,053	4,129	Metal Halide	1,404	4,129	18.00	$140	$0	$381	37%	3.7	2.3	1,451	0.35	0.32	-$6.80	$0.00	84%	1	10	1	25	100%	100%
Prescriptive Retrofit Lighting	Parking Garages	T8 or T5 Fluorescent	97	8,760	150W Metal Halide or 175W Metal Halide	179	8,760	18.00	$50	$0	$182	27%	4.6	3.3	720	0.08	0.09	$0.00	$0.00	100%	1	200	3	400	100%	100%
Prescriptive Retrofit Lighting	High Bay Fluorescents replacing 150, 175, 250 Watt HID	High Bay Fluorescent <= 200 watts	188	4,129	HID: 150, 175, 250W Lamp	365	4,129	18.00	$85	$0	$190	45%	3.6	2.0	729	0.18	0.16	-$3.42	$0.00	84%	3	250	6	475	100%	100%
Prescriptive Retrofit Lighting	High Bay Fluorescents replacing 320, 350, 400 Watt HID	High Bay Fluorescents <= 300 Watts	331	4,129	HID: 320, 350, 400W Lamp	538	4,129	18.00	$110	$0	$256	43%	4.2	2.4	855	0.21	0.19	-$4.01	$0.00	84%	11	700	14	900	100%	100%
Prescriptive Retrofit Lighting	High Bay Fluorescents replacing 750 Watt HID	High Bay Fluorescents <= 610 Watts	592	4,129	HID: 750W Lamp	1,099	4,129	18.00	$200	$0	$377	53%	2.5	1.2	2,094	0.51	0.46	-$9.81	$0.00	84%	4	100	8	200	100%	100%
Prescriptive Retrofit Lighting	High Bay Fluorescents replacing 1000 Watt HID	High Bay Fluorescents <= 900 Watts	909	4,129	HID: 1000W Lamp	1,397	4,129	18.00	$210	$0	$457	46%	3.2	1.7	2,012	0.49	0.44	-$9.43	$0.00	84%	2	50	3	90	100%	100%
Prescriptive Retrofit Lighting	Wall mount occupancy sensor	Lighting System with Occupancy Sensor	192	4,129	Lighting System without Occupancy Sensor	275	4,129	18.00	$30	$0	$55	55%	2.3	1.0	340	0.08	0.07	-$1.59	$0.00	84%	1	200	3	400	100%	100%
Prescriptive Retrofit Lighting	Ceiling mount occupancy sensor	Lighting System with Occupancy Sensor	192	4,129	Lighting System without Occupancy Sensor	275	4,129	18.00	$50	$0	$125	40%	5.1	3.1	340	0.08	0.07	-$1.59	$0.00	84%	1	200	3	400	100%	100%
Prescriptive Retrofit Lighting	Photocell	Lighting System with Photocell	178	4,129	Lighting System without Photocell	275	4,129	18.00	$30	$0	$65	46%	2.3	1.2	399	0.10	0.09	-$1.87	$0.00	84%	1	40	1	60	100%	100%
Prescriptive Retrofit Lighting	Exit sign retrofit and replacement	LED	2	8,760	Incandescent	45	8,760	18.00	$15	$0	$80	19%	4.0	3.3	376	0.04	0.05	-$0.83	$0.00	100%	2	600	3	900	100%	100%
Prescriptive Retrofit Lighting	Low Wattage T8 4' lamps	T8 25W and 28W Lamps	28	4,129	T8 32W Lamps	35	4,129	6.16	$1	$2	$2	50%	1.0	0.5	29	0.01	0.01	-$0.14	$0.00	84%	5	10,000	4	8,000	100%	100%
Prescriptive Retrofit Lighting	Integrated 25W Ceramic Metal Halide	Ceramic Metal Halide	32	4,129	Incandescent	97	4,129	7.00	$25	$0	$57	44%	3.0	1.7	267	0.06	0.06	-$1.25	$0.00	84%	1	20	1	20	100%	100%
Prescriptive Retrofit Lighting	Ceramic Metal Halide <=150W	Ceramic Metal Halide	41	4,129	Incandescent	154	4,129	18.00	$55	$0	$202	27%	6.0	4.4	466	0.11	0.10	-$2.18	$0.00	84%	1	75	1	95	100%	100%
Prescriptive Retrofit Lighting	Ceramic Metal Halide 151-250W	Ceramic Metal Halide	288	4,129	Incandescent	508	4,129	18.00	$60	$0	$222	27%	3.4	2.5	906	0.22	0.20	-$4.25	$0.00	84%	1	40	1	60	100%	100%
Prescriptive Retrofit Lighting	Ceramic Metal Halide 251W-	Ceramic Metal Halide	506	4,129	Incandescent	840	4,129	18.00	$75	$0	$292	26%	3.0	2.2	1,377	0.33	0.30	-$6.45	$0.00	84%	1	20	1	30	100%	100%
Prescriptive Retrofit Lighting	LED Interior Lamp < 5W	LED lamp	6	4,129	Incandescent or Halogen lamp	59	4,129	10.90	$20	$6	$34	59%	2.1	0.9	223	0.05	0.05	-$1.04	$0.00	91%	2	600	4	900	100%	100%
Prescriptive Retrofit Lighting	LED Interior Lamp 6W - 10W	LED lamp	8	4,129	Incandescent or Halogen lamp	52	4,129	11.53	$22	$5	$40	55%	3.1	1.4	181	0.04	0.04	-$0.85	$0.00	84%	1	300	2	450	100%	100%
Prescriptive Retrofit Lighting	LED Interior Lamp 11W - 20W	LED lamp	17	4,129	Incandescent or Halogen lamp	117	4,129	10.90	$35	$5	$65	54%	2.2	1.0	414	0.10	0.09	-$1.94	$0.00	84%	2	200	3	400	100%	100%
Prescriptive Retrofit Lighting	LED Interior Fixture Retrofit < 15W	LED Downlight Luminaire	15	4,129	Incandescent Luminaire	52	4,129	20.00	$100	$0	$193	52%	18.0	8.7	150	0.04	0.03	-$0.70	$0.00	84%	1	75	1	150	100%	100%
Prescriptive Retrofit Lighting	LED Interior Fixture Retrofit 16W - 25W	LED Downlight Luminaire	28	4,129	Incandescent Luminaire	78	4,129	20.00	$100	$0	$199	50%	13.6	6.8	205	0.05	0.04	-$0.96	$0.00	84%	1	75	1	150	100%	100%
Prescriptive Retrofit Lighting	LED Interior Fixture Retrofit 26W - 35W	LED Downlight Luminaire	38	4,129	Incandescent Luminaire	97	4,129	20.00	$125	$0	$272	46%	15.7	8.5	242	0.06	0.05	-$1.14	$0.00	84%	1	75	1	150	100%	100%
Prescriptive Retrofit Lighting	LED Interior Fixture Retrofit 36W - 50W	LED Downlight Luminaire	56	4,129	Incandescent Luminaire	129	4,129	20.00	$125	$0	$272	46%	12.5	6.8	304	0.07	0.07	-$1.43	$0.00	84%	1	75	1	150	100%	100%
Prescriptive Retrofit Lighting	LED Canopy or Soffit lighting 25W - 50W; Retrofit - Total	LED	39	4,380	Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Mercury Vapor	209	4,380	6.00	$275	$0	$668	41%	12.1	7.1	746	0.17	0.00	$0.00	$0.00	0%	1	25	1	50	100%	100%
Prescriptive Retrofit Lighting	LED Canopy or Soffit lighting 51W - 100W; Retrofit - Total	LED	69	4,380	Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Mercury Vapor	359	4,380	5.29	$275	$0	$642	43%	6.8	3.9	1,271	0.29	0.00	$0.00	$0.00	0%	1	15	1	45	100%	100%
Prescriptive Retrofit Lighting	LED Canopy or Soffit lighting 100W - 150W; Retrofit Total	LED	130	4,380	Metal Halide, Pulse Start Metal Halide, High Pressure Sodium, Mercury Vapor	426	4,380	18.00	$275	$0	$654	42%	6.8	3.9	1,298	0.30	0.00	$0.00	$0.00	0%	1	10	1	30	100%	100%
Prescriptive Retrofit Lighting	LED Refrigerated Cases - Retrofit	LED Strip lighting	41	8,760	T8 or T12 Fluorescent	101	8,760	18.00	$100	$0	$171	58%	5.9	2.5	529	0.06	0.06	$0.00	$0.00	94%	2	400	3	700	100%	100%
Prescriptive Retrofit Lighting	Parking Garage Low Wattage Lamps	T8 25W and 28W Lamps	28	8,760	T8 32W Lamps	35	8,760	3.42	$1	$2	$4	25%	1.2	0.9	62	0.01	0.01	$0.00	$0.00	100%	1	100	1	200	100%	100%
Custom Lighting	Custom Lighting Project	High Efficiency Lighting	0	4,799	Existing Lower Efficiency Lighting	22,217	4,799	15.30	$7,760	$1,669	$30,422	26%	4.3	3.2	106,626	22.22	20.71	-$429.78	$0.00	87%	43	43	60	60	96%	100%
Lighting Redesign Projects	Lighting Redesign Implementation	Improved Light Levels	91,448	5,800	Excessive Light Levels	159,132	5,800	18.00	$25,800	$0	$105,290	25%	4.4	3.3	392,581	67.68	61.24	-$1,309.35	$0.00	85%	1	1	2	2	96%	100%
Lighting Redesign Study	Lighting Redesign Study	0	0	0	0	0	0	0.00	$12,796	$0	$18,800	68%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	5	5	10	10	96%	100%
Standard Offer																										
Standard Offer	Implementation	Implemented Measures	1,991,427	5,888	Existing Facility	2,267,518	5,888	15.00	$128,489	$0	$1,015,530	13%	9.6	8.4	1,625,682	276.09	244.82	-$4,299.50	$5,545.83	83%	6	6	6	6	88%	100%
Standard Offer	TEA - Rebates	N/A	2,267,518	5,888	Existing Facility	2,267,518	5,888	0.00	$37,766	$0	$140,531	27%	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	0%	6	6	6	6	88%	100%
Residential																										
Energy Star New Homes																										
Envelope Measures - Not Boulder	HERS 71-75	Energy Efficient Home	1,353	8,760	Code Compliant Home	1,401	8,760	20.00	$30	$0	$72	42%	1.5	0.9	422	0.05	0.02	$0.00	$0.00	34%	1,102	1,102	1,102	1,102	92%	100%
Envelope Measures - Not Boulder	HERS 66-70	Energy Efficient Home	1,356	8,760	Code Compliant Home	1,409	8,760	20.00	$48	$0	$146	33%	2.8	1.8	465	0.05	0.02	$0.00	$0.00	34%	998	998	998	998	92%	100%
Envelope Measures - Not Boulder	HERS 61-65	Energy Efficient Home	1,364	8,760	Code Compliant Home	1,425	8,760	20.00	$72	$0	$279	26%	4.6	3.4	534	0.06	0.02	$0.00	$0.00	34%	299	299	299	299	92%	100%
Envelope Measures - Not Boulder	HERS 0-60	Energy Efficient Home	1,147	8,760	Code Compliant Home	1,226	8,760	20.00	$129	$0	$517	25%	6.5	4.9	695	0.08	0.03	$0.00	$0.00	34%	98	98	98	98	92%	100%
Envelope Measures - Boulder Homes <3,000ft²	HERS 61-65	Energy Efficient Home	105	8,760	Code Compliant Home	110	8,760	20.00	$303	$0	$1,191	25%	233.9	174.4	45	0.01	0.00	$0.00	$0.00	3%	34	34	49	49	92%	100%
Envelope Measures - Boulder Homes <3,000ft²	HERS 0-60	Energy Efficient Home	101	8,760	Code Compliant Home	110	8,760	20.00	$99	$0	$313	32%	34.3	23.5	80	0.01	0.00	$0.00	$0.00	3%	49	49	83	83	92%	100%
Energy Star Appliances	Energy Star Dishwasher	Energy Star Dishwasher	143	392	Conventional Dishwasher	209	392	11.00	$5	$0	$18	25%	5.0	3.7	26	0.07	0.00	$0.36	$0.36	4%	0	1,827	0	2,157	92%	100%
Energy Star Appliances	Energy Star Clothes Washer	Energy Star Clothes Washer	870	215	Conventional Clothes Washer	1,229	215	11.00	$2	$0	$5	33%	0.3	0.2	77	0.36	0.01	$3.06	$3.06	2%	0	2,092	0	2,465	92%	100%
Energy Star Appliances	Energy Star Refrigerator	Energy Star Refrigerator	60	8,760	Conventional Refrigerator	71	8,760	13.00	$10	$0	$30	33%	2.8	1.9	93	0.01	0.01	$0.00	$0.00	100%	0	1,885	0	2,225	92%	100%
Lighting 2012	High Efficiency Lighting Fixtures	Energy Efficient Lighting	19	720	Conventional Lighting	65	720	9.34	$40	$10	$55	73%	14.4	3.8	33	0.05	0.00	$0.00	$0.00	8%	0	61	0	0	92%	100%
Lighting 2013	High Efficiency Lighting Fixtures	Energy Efficient Lighting	16	673	Conventional Lighting	56	673	10.12	$40	$10	$55	73%	17.7	4.7	27	0.04	0.00	$0.00	$0.00	8%	0	0	0	63	92%	100%
Evaporative Cooling																										
Evap Cooling (Denver/Front Range)	Evaporative Cooling Replacing 13 SEER central A/C (Tier 1) Replacement	3 Ton Evaporative Cooler	388	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$100	$4,715	-$4,104	-2%	-32.6	-33.4	1,194	2.83	2.15	-$10.26	$0.00	70%	1,025	1,025	1,030	1,030	52%	100%
Evap Cooling (Denver/Front Range)	Evaporative Cooling Replacing 13 SEER central A/C (Tier 1) 1st Time Install	3 Ton Evaporative Cooler	388	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$250	$4,715	-$4,104	-6%	-32.6	-34.6	1,194	2.83	2.15	-$10.26	$0.00	70%	1,290	1,290	1,355	1,355	70%	100%
Evap Cooling (Denver/Front Range)	High Efficiency Evaporative Replacing 13 SEER A/C 3 ton; (Tier 2) Replacement	High Effic Evaporative Cooler 3 Tons	388	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$500	$4,715	-$3,595	-14%	-27.8	-31.6	1,194	2.83	2.15	-$6.77	$0.00	70%	300	300	375	375	59%	100%
Evap Cooling (Denver/Front Range)	High Efficiency Evaporative Replacing 13 SEER A/C 3 ton; (Tier 2) 1st Time Install	High Effic Evaporative Cooler 3 Tons	388	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$600	$4,715	-$3,595	-17%	-27.8	-32.4	1,194	2.83	2.15	-$6.77	$0.00	70%	700	700	725	725	70%	100%
Evap Cooling (Denver/Front Range)	High Efficiency Evaporative Replacing 13 SEER central A/C 3 ton; (Tier 3) Replacement	Integrated HVAC with Hi Effic Evap System	760	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$1,000	$4,715	$4,621	22%	41.4	32.5	1,037	2.46	1.87	-$6.77	$0.00	70%	100	100	200	200	100%	100%
Evap Cooling (Grand Junction/Western Slope)	Evaporative Cooling Replacing 13 SEER central A/C (Tier 1) Replacement	3 Ton Evaporative Cooler	388	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$100	$4,715	-$4,104	-2%	-27.7	-28.3	1,390	2.83	2.15	-$10.26	$0.00	70%	160	160	190	190	52%	100%
Evap Cooling (Grand Junction/Western Slope)	Evaporative Cooling Replacing 13 SEER central A/C (Tier 1) 1st Time Install	3 Ton Evaporative Cooler	388	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$250	$4,715	-$4,104	-6%	-27.7	-29.4	1,390	2.83	2.15	-$10.26	$0.00	70%	285	285	315	315	70%	100%
Evap Cooling (Grand Junction/Western Slope)	High Efficiency Evaporative Replacing 13 SEER A/C 3 ton; (Tier 2) Replacement	High Effic Evaporative Cooler 3 Tons	388	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$500	$4,715	-$3,595	-14%	-23.7	-27.0	1,390	2.83	2.15	-$6.77	$0.00	70%	75	75	57	57	59%	100%
Evap Cooling (Grand Junction/Western Slope)	High Efficiency Evaporative Replacing 13 SEER A/C 3 ton; (Tier 2) 1st Time Install	High Effic Evaporative Cooler 3 Tons	388	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$600	$4,715	-$3,595	-17%	-23.7	-27.6	1,390	2.83	2.15	-$6.77	$0.00	70%	113	113	133	133	70%	100%
Evap Cooling (Grand Junction/Western Slope)	High Efficiency Evaporative Replacing 13 SEER central A/C 3 ton; (Tier 3) Replacement	Integrated HVAC with Hi Effic Evap System	760	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$1,000	$4,715	$4,621	22%	35.3	27.7	1,207	2.46	1.87	-$6.77	$0.00	70%	250	250	250	250	100%	100%
High Efficiency Air Conditioning																										

Electric Planning Assumptions																								
Measure Description		High Efficiency Product Assumptions			Baseline Product Assumptions			Economic Assumptions				Stipulated Output						Economic Assumptions		Technical Assumption	2012		2013			
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
New Home Install High Efficiency ENERGY STAR AC CEE Tier 1	New High Eff A/C	3 Ton 14.5 SEER; 12 EER; w/o Quality Installation	3,000	919	3T SEER 13 EER 11.18 w/o Quality Installation	3,220	919	14.00	$250	$4,329	$521	48%	22.6	11.7	202	0.22	0.21	$0.00	$0.00	90%	1	1	1	1	89%	100%
New Home Install High Efficiency ENERGY STAR AC CEE Tier 2	New High Eff A/C	3 Ton 15 SEER; 12.5 EER; w/o Quality Installation	2,880	766	3T SEER 13 w/o Quality Installation	3,220	766	14.00	$350	$4,329	$693	51%	23.3	11.5	261	0.34	0.33	$0.00	$0.00	90%	1	1	1	1	89%	100%
New Home Install High Efficiency ENERGY STAR AC CEE Tier 3	New High Eff A/C	3 Ton 16 SEER; 13 EER; w/o Quality Installation	2,769	813	3T SEER 13 w/o Quality Installation	3,220	813	14.00	$500	$4,329	$1,040	48%	24.9	12.9	366	0.45	0.44	$0.00	$0.00	90%	2	2	2	2	89%	100%
New Home Provide Quality Installation of new AC 3 T 13 SEER	New High Eff A/C with QI	3 T Units with Quality Installation	2,238	607	3T Units w/o Quality Installation	3,220	607	7.00	$0	$0	$200	0%	2.9	2.9	596	0.98	0.96	$0.00	$0.00	90%	0	0	0	0	89%	100%
New Home Provide Quality Installation of new AC 3 T 14.5 SEER	New High Eff A/C with QI	3 T Units with Quality Installation	2,085	584	3T Units w/o Quality Installation	3,000	584	7.00	$0	$0	$200	0%	3.3	3.3	534	0.91	0.89	$0.00	$0.00	90%	1	1	1	1	89%	100%
New Home Provide Quality Installation of new AC 3 T 15 SEER	New High Eff A/C with QI	3 T Units with Quality Installation	2,002	588	3T Units w/o Quality Installation	2,880	588	7.00	$0	$0	$200	0%	3.4	3.4	516	0.88	0.86	$0.00	$0.00	90%	2	2	2	2	89%	100%
New Home Provide Quality Installation of new AC 3 T 16 SEER	New High Eff A/C with QI	3 T Units with Quality Installation	1,925	573	3T Units w/o Quality Installation	2,769	573	7.00	$0	$0	$200	0%	3.6	3.6	484	0.84	0.82	$0.00	$0.00	90%	3	3	3	3	89%	100%
Existing Home Install High Efficiency ENERGY STAR AC CEE Tier 1	Replace with High Eff A/C	3 Ton 14.5 SEER; 12 EER; w/o Quality Installation	3,000	919	3T SEER 13 w/o Quality Installation	3,220	919	14.00	$250	$4,329	$521	48%	22.6	11.7	202	0.22	0.21	$0.00	$0.00	90%	7	7	7	7	89%	100%
Existing Home Install High Efficiency ENERGY STAR AC CEE Tier 2	Replace with High Eff A/C	3 Ton 15 SEER; 12.5 EER; w/o Quality Installation	2,880	766	3T SEER 13 w/o Quality Installation	3,220	766	14.00	$350	$4,329	$693	51%	23.3	11.5	261	0.34	0.33	$0.00	$0.00	90%	33	33	33	33	89%	100%
Existing Home Install High Efficiency ENERGY STAR AC CEE Tier 3	Replace with High Eff A/C	3 Ton 16 SEER; 13 EER; w/o Quality Installation	2,769	813	3T SEER 13 w/o Quality Installation	3,220	813	14.00	$500	$4,329	$1,040	48%	24.9	12.9	366	0.45	0.44	$0.00	$0.00	90%	87	87	87	87	89%	100%
Existing Home Provide Quality Installation of new AC in exist home - AC 3 T 13 SEER	Replace with High Eff A/C w/QI	3 T Units with Quality Installation	2,325	607	3T Units w/o Quality Installation	3,220	607	7.00	$0	$0	$200	0%	3.2	3.2	543	0.89	0.87	$0.00	$0.00	90%	38	38	38	38	89%	100%
Existing Home Provide Qual Install of new AC in exist home - AC 3 T 14.5 SEER	Replace with High Eff A/C w/QI	3 T Units with Quality Installation	2,166	584	3T Units w/o Quality Installation	3,000	584	7.00	$0	$0	$200	0%	3.5	3.5	487	0.83	0.81	$1.00	$0.00	90%	7	7	7	7	89%	100%
Existing Home Provide Quality Installation of new AC in exist home - AC 3 T 15 SEER	Replace with High Eff A/C w/QI	3 T Units with Quality Installation	2,080	588	3T Units w/o Quality Installation	2,880	588	7.00	$0	$0	$200	0%	3.6	3.6	471	0.80	0.78	$2.00	$0.00	90%	33	33	33	33	89%	100%
Existing Home Provide Quality Installation of new AC in exist home - AC 3 T 16 SEER	Replace with High Eff A/C w/QI	3 T Units with Quality Installation	2,000	573	3T Units w/o Quality Installation	2,769	573	7.00	$0	$0	$200	0%	3.7	3.7	441	0.77	0.75	$3.00	$0.00	90%	86	86	86	86	89%	100%
Install High Efficiency AC With Quality Installation Trade In	Early Retirement Install High Efficiency A/C	3 Ton 14 SEER; 11.76 EER; w Quality Installation	2,210	722	3 T SEER 10 EER 9.2 w/o Quality Installation	3,913	722	7.00	$600	$3,949	$999	60%	7.1	2.8	1,230	1.70	1.66	$0.00	$0.00	90%	394	394	394	394	89%	100%
Install High Efficiency ENERGY STAR AC CEE Tier 1 with Quality Installation Trade In	Early Retirement Install High Efficiency A/C	3 Ton 14.5 SEER; 12 EER; w Quality Installation	2,166	730	3 T SEER 10 EER 9.2 w/o Quality Installation	3,913	730	7.00	$850	$3,949	$1,154	74%	7.9	2.1	1,275	1.75	1.70	$0.00	$0.00	90%	68	68	68	68	89%	100%
Install High Efficiency ENERGY STAR AC CEE Tier 2 with Quality Installation Trade In	Early Retirement Install High Efficiency A/C	3 Ton 15 SEER; 12.5 EER; w Quality Installation	2,080	718	3 T SEER 10 EER 9.2 w/o Quality Installation	3,913	718	7.00	$950	$3,949	$1,308	73%	8.7	2.4	1,317	1.83	1.79	$0.00	$0.00	90%	338	338	338	338	89%	100%
Install High Efficiency ENERGY STAR AC CEE Tier 3 with Quality Installtion	Early Retirement Install High Efficiency A/C	3 Ton 16 SEER; 13 EER; w Quality Installation	2,000	728	3 T SEER 10 EER 9.2 w/o Quality Installation	3,913	728	7.00	$1,100	$3,949	$1,616	68%	10.2	3.2	1,393	1.91	1.86	$0.00	$0.00	90%	890	890	890	890	89%	100%
Installation of new GSHP 6 T 14.1 EER in NEW HOME (3220 Sq.Ft) for COOLING	Install GSHP Cooling	Installation of 6 Ton capacity with 2.5 ton load , closed loop, 14.1 EER GSHP	1,291	900	Installation of 6 Ton 13 SEER ASHP with 2.5 ton load	2,902	900	20.00	$601	$4,582	$1,930	31%	11.7	8.0	1,450	1.61	0.72	$0.00	$0.00	42%	5	5	5	5	100%	100%
Installation of new GSHP 3.4 T 14.1 EER in EXISTING HOME(1440 Sq. Ft.) for COOLING	Install GSHP Cooling	Installation of 3.4Ton capacity closed loop, 14.1 EER GSHP with 2.0 ton load	992	701	Installation of 2.16Ton 13 SEER AC with 2.0 ton load	2,322	701	20.00	$341	$4,385	$657	52%	6.2	3.0	932	1.33	0.85	$0.00	$0.00	59%	5	5	5	5	100%	100%
Installation of new GSHP 6 Ton 3.3 COP in NEW HOME (3220 Sq.Ft) for HEATING	Install GSHP Heating	Installation of 6 Ton capacity, 3.3 COP closed loop, GSHP for 6 ton load	6,317	859	Installation of 6 Ton 13 SEER ASHP	6,725	859	20.00	$1,203	$1,866	$8,412	14%	210.5	180.4	350	0.41	0.00	$0.00	$0.00	0%	5	5	5	5	100%	100%
Installation of new GSHP 3.4 T 3.3 COP in EXISTING HOME (1440 Sq. Ft.) for HEATING	Install GSHP Heating	Installation of 3.4 Ton capacity, 3.3 COP closed loop, GSHP for 3.4 ton load	3,634	1,409	Installation of ducted elec resistance htg	11,908	1,409	20.00	$683	$1,866	$2,863	24%	2.2	1.6	11,657	8.27	0.00	$0.00	$0.00	0%	5	5	5	5	100%	100%
Home Lighting and Recycling																										
Residential Home Lighting-Residential Customers 2012	Average CFL Wattage Purchased In program	Average CFL Wattage Purchased In program	16	870	Average equivalent incandescent wattage purchased in program	63	870	7.42	$1	$1	$3	42%	0.6	0.3	41	0.05	0.00	$0.00	$0.00	8%	481,750	1,927,000	0	0	90%	99%
Residential Home Lighting - Business Customers 2012	Average CFL Wattage Purchased In program	Average CFL Wattage Purchased In program	16	3,141	Average equivalent incandescent wattage purchased in program	63	3,141	2.55	$1	$1	$3	42%	0.2	0.1	149	0.05	0.04	$0.00	$0.00	85%	30,750	123,000	0	0	90%	99%
Residential Home Lighting-Residential Customers 2012	LED Bulb	LED Bulb Purchase	12	870	Average equivalent incandescent wattage purchased in program	63	870	20.00	$10	$1	$37	27%	7.5	5.5	44	0.05	0.00	$0.00	$0.00	8%	9,400	18,800	0	0	100%	99%
Residential Home Lighting - Business Customers 2012	LED Bulb	LED Bulb Purchase	12	3,141	Average equivalent incandescent wattage purchased in program	63	3,141	7.96	$10	$1	$37	27%	2.1	1.5	159	0.05	0.05	$0.00	$0.00	85%	600	1,200	0	0	100%	99%
Residential Home Lighting-Residential Customers 2013	Average CFL Wattage Purchased In program	Average CFL Wattage Purchased In program	16	864	Average equivalent incandescent wattage purchased in program	58	864	7.49	$1	$1	$3	42%	0.7	0.4	37	0.04	0.00	$0.00	$0.00	8%	0	0	491,150	1,964,600	90%	99%
Residential Home Lighting - Business Customers 2013	Average CFL Wattage Purchased In program	Average CFL Wattage Purchased In program	16	3,141	Average equivalent incandescent wattage purchased in program	58	3,141	2.55	$1	$1	$3	42%	0.2	0.1	134	0.04	0.04	$0.00	$0.00	85%	0	0	31,350	125,400	90%	99%
Residential Home Lighting-Residential Customers 2013	LED Bulb	LED Bulb Purchase	12	864	Average equivalent incandescent wattage purchased in program	58	864	20.00	$10	$1	$37	27%	8.3	6.1	39	0.05	0.00	$0.00	$0.00	8%	0	0	11,750	23,500	100%	99%
Residential Home Lighting - Business Customers 2013	LED Bulb	LED Bulb Purchase	12	3,141	Average equivalent incandescent wattage purchased in program	58	3,141	7.96	$10	$1	$37	27%	2.3	1.7	143	0.05	0.04	$0.00	$0.00	85%	0	0	750	1,500	100%	99%
Home Performance with Energy Star																										
Attic Insulation and Bypass Sealing	Heating Effects from R-19 to R40 in Electric Resistance Heated Home	R-40 Insulation or Higher	15,423	787	R-19 Insulation	16,383	787	20.00	$0	$0	$0	#DIV/0!	0.0	0.0	756	0.96	0.00	$0.00	$0.00	0%	0	0	0	0	94%	100%
Attic Insulation and Bypass Sealing	Cooling Effects from R-19 to R40 in Central AC Cooled Home	R-40 Insulation or Higher	1,869	628	R-19 Insulation	2,005	628	20.00	$71	$0	$119	60%	12.3	5.0	85	0.14	0.12	$0.00	$0.00	81%	43	182	61	272	94%	100%
Air Sealing and Weatherstripping	Heating Effects from 25% ACH Reduction in Electric Resistance Heated Home	0.45 ACH	14,450	787	0.6 ACH	16,383	787	10.00	$0	$0	$0	#DIV/0!	0.0	0.0	1,521	1.93	0.00	$0.00	$0.00	0%	0	0	0	0	94%	100%
Air Sealing and Weatherstripping	Cooling Effects from 25% ACH Reduction in Electric Resistance Heated Home	0.45 ACH	1,997	628	0.6 ACH	2,005	628	10.00	$11	$0	$18	59%	32.0	13.2	5	0.01	0.01	$0.00	$0.00	81%	31	137	46	205	94%	100%
Wall Insulation: sub-siding or cavity	Heating Effects from R-0 to R11 in Electric Resistance Heated Home	R-11	16,383	787	R-0	25,446	787	20.00	$0	$0	$0	#DIV/0!	0.0	0.0	7,131	9.06	0.00	$0.00	$0.00	0%	0	0	0	0	94%	100%
Wall Insulation: sub-siding or cavity	Cooling Effects from R-0 to R11 in Electric Resistance Heated Home	R-11	2,005	628	R-0	2,591	628	20.00	$106	$0	$286	37%	6.8	4.3	368	0.59	0.51	$0.00	$0.00	81%	28	124	42	187	94%	100%
CFLs	2012	20 CFLs	380	720	20 Incandescent Lamps	1,259	720	9.34	$40	$0	$63	63%	0.9	0.3	633	0.88	0.08	$0.00	$0.00	8%	23	102	0	0	94%	100%
CFLs	2013	20 CFLs	380	673	20 Incandescent Lamps	1,162	673	10.12	$40	$0	$63	63%	1.1	0.4	526	0.78	0.07	$0.00	$0.00	8%	0	0	34	153	94%	100%

Electric Planning Assumptions																										
Measure Description		High Efficiency Product Assumptions			Baseline Product Assumptions			Economic Assumptions				Stipulated Output						Economic Assumptions		Technical Assumption	2012		2013			
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Increm'l Cost Payback Period w/o Rebate (yrs)	Increm'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Refrigerator Recycling	Refrigerator Recycling	Removal of second refrigerator	0	7,361	Existing unit vintage from 7-18 yrs old	134	7,361	7.00	$0	$0	$0	#DIV/0!	0.0	0.0	989	0.13	0.15	$0.00	$0.00	100%	0	0	0	0	94%	100%
Energy Star Refrigerator	Energy Star Refrigerator	Energy Star Refrigerator	60	8,760	Standard Refrigerator	71	8,760	13.00	$15	$1,070	$30	50%	2.8	1.4	93	0.01	0.01	$0.00	$0.00	100%	12	53	18	80	94%	100%
ECM Furnace Fan	ECM Furnace Fan	EC Motor	150	2,484	PSC Motor	400	2,484	18.00	$200	$0	$400	50%	5.6	2.8	621	0.25	0.00	$0.00	$0.00	0%	4	20	7	31	94%	100%
Dishwasher	Electric DHW	0.65 Energy Factor - Energy Star Recommended	1,538	215	0.46 Energy Factor - Federal Minimum Standard	2,174	215	11.00	$15	$0	$30	50%	1.7	0.9	137	0.64	0.02	$1.64	$0.00	2%	1	6	2	9	94%	100%
Dishwasher	Gas DHW	0.65 Energy Factor - Energy Star Recommended	870	215	0.46 Energy Factor - Federal Minimum Standard	1,229	215	11.00	$5	$0	$10	50%	1.1	0.5	77	0.36	0.01	$0.55	$0.00	2%	12	55	18	83	94%	100%
Clothes Washer	Electric DHW	Energy Star Clothes washer	2,269	200	standard clothes washer	3,243	200	11.00	$70	$0	$200	35%	4.1	2.7	195	0.97	0.02	$26.66	$0.00	2%	2	8	3	12	94%	100%
Clothes Washer	Gas DHW	Energy Star Clothes washer	281	200	standard clothes washer	410	200	11.00	$24	$0	$69	35%	5.7	3.7	26	0.13	0.00	$9.26	$0.00	2%	16	74	24	110	94%	100%
Evap Cooling (Denver/Front Range)	Evaporative Cooling Replacing 13 SEER central A/C (Tier 1) Replacement	3 Ton Evaporative Cooler	388	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$125	$4,715	-$4,104	-3%	-32.6	-33.6	1,194	2.83	2.15	-$10.26	$0.00	70%	4	20	7	30	94%	100%
Evap Cooling (Denver/Front Range)	Evaporative Cooling Replacing 13 SEER central A/C (Tier 1) 1st Time Install	3 Ton Evaporative Cooler	388	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$275	$4,715	-$4,104	-7%	-32.6	-34.8	1,194	2.83	2.15	-$10.26	$0.00	70%	2	10	3	15	94%	100%
Evap Cooling (Denver/Front Range)	High Efficiency Evaporative Replacing 13 SEER A/C 3 ton; (Tier 2) Replacement	High Effic Evaporative Cooler 3 Tons	388	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$525	$4,715	-$3,595	-15%	-27.8	-31.8	1,194	2.83	2.15	-$6.77	$0.00	70%	2	10	3	15	94%	100%
Evap Cooling (Denver/Front Range)	High Efficiency Evaporative Replacing 13 SEER A/C 3 ton; (Tier 2) 1st Time Install	High Effic Evaporative Cooler 3 Tons	388	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$625	$4,715	-$3,595	-17%	-27.8	-32.6	1,194	2.83	2.15	-$6.77	$0.00	70%	2	10	3	15	94%	100%
Evap Cooling (Denver/Front Range)	High Efficiency Evaporative Replacing 13 SEER central A/C 3 ton; (Tier 3) Replacement	Integrated HVAC with Hi Effic Evap System	760	422	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	422	15.00	$1,000	$4,715	$4,621	22%	41.4	32.5	1,037	2.46	1.87	-$6.77	$0.00	70%	2	10	3	15	94%	100%
Evap Cooling (Grand Junction/Western Slope)	Evaporative Cooling Replacing 13 SEER central A/C (Tier 1) Replacement	3 Ton Evaporative Cooler	388	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$125	$4,715	-$4,104	-3%	-27.7	-28.5	1,390	2.83	2.15	-$10.26	$0.00	70%	0	0	0	0	94%	100%
Evap Cooling (Grand Junction/Western Slope)	Evaporative Cooling Replacing 13 SEER central A/C (Tier 1) 1st Time Install	3 Ton Evaporative Cooler	388	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$275	$4,715	-$4,104	-7%	-27.7	-29.5	1,390	2.83	2.15	-$10.26	$0.00	70%	0	0	0	0	94%	100%
Evap Cooling (Grand Junction/Western Slope)	High Efficiency Evaporative Replacing 13 SEER A/C 3 ton; (Tier 2) Replacement	High Effic Evaporative Cooler 3 Tons	388	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$525	$4,715	-$3,595	-15%	-23.7	-27.1	1,390	2.83	2.15	-$6.77	$0.00	70%	0	0	0	0	94%	100%
Evap Cooling (Grand Junction/Western Slope)	High Efficiency Evaporative Replacing 13 SEER A/C 3 ton; (Tier 2) 1st Time Install	High Effic Evaporative Cooler 3 Tons	388	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$625	$4,715	-$3,595	-17%	-23.7	-27.8	1,390	2.83	2.15	-$6.77	$0.00	70%	0	0	0	0	94%	100%
Evap Cooling (Grand Junction/Western Slope)	High Efficiency Evaporative Replacing 13 SEER central A/C 3 ton; (Tier 3) Replacement	Integrated HVAC with Hi Effic Evap System	760	491	Conv Furn SEER 13 - New/ Remod Home 3 ton	3,220	491	15.00	$1,000	$4,715	$4,621	22%	35.3	27.7	1,207	2.46	1.87	-$6.77	$0.00	70%	0	0	0	0	94%	100%
Existing Home Install High Efficiency ENERGY STAR AC CEE Tier 1	Replace with High Eff A/C	3 Ton 14.5 SEER; 12 EER; w/o Quality Installation	3,000	919	3T SEER 13 w/o Quality Installation	3,220	919	14.00	$300	$4,329	$521	58%	22.6	9.6	202	0.22	0.21	$0.00	$0.00	90%	3	12	4	18	94%	100%
Existing Home Install High Efficiency ENERGY STAR AC CEE Tier 2	Replace with High Eff A/C	3 Ton 15 SEER; 12.5 EER; w/o Quality Installation	2,880	766	3T SEER 13 w/o Quality Installation	3,220	766	14.00	$400	$4,329	$693	58%	23.3	9.9	261	0.34	0.33	$0.00	$0.00	90%	0	2	1	3	94%	100%
Existing Home Install High Efficiency ENERGY STAR AC CEE Tier 3	Replace with High Eff A/C	3 Ton 16 SEER; 13 EER; w/o Quality Installation	2,769	813	3T SEER 13 w/o Quality Installation	3,220	813	14.00	$550	$4,329	$1,040	53%	24.9	11.7	366	0.45	0.44	$0.00	$0.00	90%	0	2	1	3	94%	100%
Existing Home Provide Quality Installation of new AC in exist home - AC 3 T 13 SEER	Replace with High Eff A/C w/QI	3 T Units with Quality Installation	2,325	607	3T Units w/o Quality Installation	3,220	607	7.00	$0	$0	$200	0%	3.2	3.2	543	0.89	0.87	$0.00	$0.00	90%	0	0	0	0	94%	100%
Existing Home Provide Qual Install of new AC in exist home - AC 3 T 14.5 SEER	Replace with High Eff A/C w/QI	3 T Units with Quality Installation	2,166	584	3T Units w/o Quality Installation	3,000	584	7.00	$0	$0	$200	0%	3.5	3.5	487	0.83	0.81	$1.00	$0.00	90%	3	12	4	18	94%	100%
Existing Home Provide Quality Installation of new AC in exist home - AC 3 T 15 SEER	Replace with High Eff A/C w/QI	3 T Units with Quality Installation	2,080	588	3T Units w/o Quality Installation	2,880	588	7.00	$0	$0	$200	0%	3.6	3.6	471	0.80	0.78	$2.00	$0.00	90%	0	2	1	3	94%	100%
Existing Home Provide Quality Installation of new AC in exist home - AC 3 T 16 SEER	Replace with High Eff A/C w/QI	3 T Units with Quality Installation	2,000	573	3T Units w/o Quality Installation	2,769	573	7.00	$0	$0	$200	0%	3.7	3.7	441	0.77	0.75	$3.00	$0.00	90%	0	2	1	3	94%	100%
Install High Efficiency AC With Quality Installation Trade In	Early Retirement Install High Efficiency A/C	3 Ton 14 SEER; 11.76 EER; w Quality Installation	2,210	722	3 T SEER 10 EER 9.2 w/o Quality Installation	3,913	722	7.00	$600	$3,949	$999	60%	7.1	2.8	1,230	1.70	1.66	$0.00	$0.00	90%	0	0	0	0	94%	100%
Install High Efficiency ENERGY STAR AC CEE Tier 1 with Quality Installation Trade In	Early Retirement Install High Efficiency A/C	3 Ton 14.5 SEER; 12 EER; w Quality Installation	2,166	730	3 T SEER 10 EER 9.2 w/o Quality Installation	3,913	730	7.00	$850	$3,949	$1,154	74%	7.9	2.1	1,275	1.75	1.70	$0.00	$0.00	90%	4	18	6	27	94%	100%
Install High Efficiency ENERGY STAR AC CEE Tier 2 with Quality Installation Trade In	Early Retirement Install High Efficiency A/C	3 Ton 15 SEER; 12.5 EER; w Quality Installation	2,080	718	3 T SEER 10 EER 9.2 w/o Quality Installation	3,913	718	7.00	$950	$3,949	$1,308	73%	8.7	2.4	1,317	1.83	1.79	$0.00	$0.00	90%	3	12	4	18	94%	100%
Install High Efficiency ENERGY STAR AC CEE Tier 3 with Quality Installtion	Early Retirement Install High Efficiency A/C	3 Ton 16 SEER; 13 EER; w Quality Installation	2,000	728	3 T SEER 10 EER 9.2 w/o Quality Installation	3,913	728	7.00	$1,100	$3,949	$1,616	68%	10.2	3.2	1,393	1.91	1.86	$0.00	$0.00	90%	3	12	4	18	94%	100%
Installation of new GSHP 3.4 T 14.1 EER in EXISTING HOME(1440 Sq. Ft.) for COOLING	Install GSHP Cooling	Installation of 3.4Ton capacity closed loop, 14.1 EER GSHP with 2.0 ton load	992	701	Installation of 2.16Ton 13 SEER AC with 2.0 ton load	2,322	701	20.00	$341	$4,385	$657	52%	6.2	3.0	932	1.33	0.85	$0.00	$0.00	59%	0	1	0	2	94%	100%
Installation of new GSHP 3.4 T 3.3 COP in EXISTING HOME (1440 Sq. Ft.) for HEATING	Install GSHP Heating	Installation of 3.4 Ton capacity, 3.3 COP closed loop, GSHP for 3.4 ton load	3,634	1,409	Installation of ducted elec resistance htg	11,908	1,409	20.00	$683	$1,866	$2,863	24%	2.2	1.6	11,657	8.27	0.00	$0.00	$0.00	0%	0	1	0	2	94%	100%
Insulation																										
Insulation Heating Effects	Attic Insulation Heating Effects from R-19 to R40 in Electric Resistance Heated Home	R-40 Insulation or Higher	15,423	787	R-19 Insulation	16,383	787	20.00	$118	$0	$588	20%	6.8	5.5	756	0.96	0.00	$0.00	$0.00	0%	3	4	3	4	89%	100%
Insulation Heating Effects	Air Sealing Heating Effects from 25% ACH Reduction in Electric Resistance Heated Home	0.45 ACH	14,450	787	0.6 ACH	16,383	787	10.00	$54	$0	$272	20%	1.6	1.3	1,521	1.93	0.00	$0.00	$0.00	0%	0	0	0	0	89%	100%
Insulation Heating Effects	Wall Insulation Heating Effects from R-0 to R11 in Electric Resistance Heated Home	R-11	16,383	787	R-0	25,446	787	20.00	$300	$0	$2,080	14%	2.6	2.2	7,131	9.06	0.00	$0.00	$0.00	0%	1	1	1	1	89%	100%
Insulation Cooling Effects	Attic Insulation Cooling Effects from R-19 to R40 in Electric Cooled Home	R-40 Insulation or Higher	1,869	628	R-19 Insulation	2,005	628	20.00	$19	$0	$93	20%	9.6	7.7	85	0.14	0.12	$0.00	$0.00	81%	2,400	2,949	2,400	2,949	89%	100%
Insulation Cooling Effects	Air Sealing Cooling Effects from 25% ACH Reduction in Electric Cooled Home	0.45 ACH	1,997	628	0.6 ACH	2,005	628	10.00	$4	$0	$20	20%	35.7	28.6	5	0.01	0.01	$0.00	$0.00	81%	313	384	313	384	89%	100%
Insulation Cooling Effects	Wall Insulation Cooling Effects from R-0 to R11 in Electric Cooled Home	R-11	2,005	628	R-0	2,591	628	20.00	$43	$0	$296	14%	7.1	6.0	368	0.59	0.51	$0.00	$0.00	81%	403	495	403	495	89%	100%
Refrigerator Recycling																										
Refrigerator Recycling - second refrigerator 2012	removal of second refrigerator	removal of second refrigerator	0	0	existing unit vintage from 7-18 years old	146	7,361	7.27	$50	$0	$0	#DIV/0!	0.0	-0.4	1,071	0.15	0.16	$0.00	$0.00	100%	1,800	1,800	0	0	61%	100%
Refrigerator Recycling - second refrigerator 2013	removal of second refrigerator	removal of second refrigerator	0	0	existing unit vintage from 7-18 years old	109	7,361	6.18	$50	$0	$0	#DIV/0!	0.0	-0.5	803	0.11	0.12	$0.00	$0.00	100%	0	0	2,000	2,000	61%	100%
School Education Kits																										
Lighting 2012	Replace incandescent lamps with CFLs	6 CFLs: 3 x 13 W and 3 x 18 W	93	868	6 Federal Maximum Wattage Bulbs	405	868	7.44	$16	$0	$16	100%	0.5	0.0	271	0.31	0.03	$0.00	$0.00	8%	30,000	30,000	0	0	100%	66%
Lighting 2013	Replace incandescent lamps with CFLs	6 CFLs: 3 x 13 W and 3 x 18 W	93	858	6 Federal Maximum Wattage Bulbs	339	858	7.55	$16	$0	$16	100%	0.7	0.0	211	0.25	0.02	$0.00	$0.00	8%	0	0	30,000	30,000	100%	66%
Water Heating																										
Heat Pump Water Heaters	Heat Pump Water Heaters - Natural Gas Heated Home 91%	Heat Pump Water Heater Energy Factor (EF) = 2.19	2,190	1,073	Elec Resis EF =0.9106	4,500	1,073	13.00	$450	$650	$1,150	39%	4.8	2.9	2,478	2.31	0.31	$0.00	-$40.66	12%	182	182	182	182	100%	100%
Heat Pump Water Heaters	Heat Pump Water Heaters - Electric Resistance Heated Home - 8%	Heat Pump Water Heater Energy Factor (EF) = 2.19	3,159	1,073	Elec Resis EF =0.9106	4,500	1,073	13.00	$450	$650	$1,150	39%	7.0	4.3	1,439	1.34	0.18	$0.00	$0.00	12%	16	16	16	16	100%	100%
Heat Pump Water Heaters	Heat Pump Water Heaters - Air Source Heat Pump Heating 1%	Heat Pump Water HeaterEnergy Factor (EF) = 2.19	2,676	1,073	Elec Resis EF =0.9106	4,500	1,073	13.00	$450	$650	$1,150	39%	5.2	3.1	1,956	1.82	0.24	$0.00	$0.00	12%	2	2	2	2	100%	100%
Saver's Switch																										
2012 Colorado Residential Saver's Switch	Residential - new installation (smart switch), AC control only	Utility load control	0	11	No control, no switch	3,000	11	15.00	$0	$0	$0	#DIV/0!	0.0	0.0	33	3.00	1.07	$0.00	$0.00	33%	19,500	19,500	19,500	19,500	100%	100%
Energy Feedback Pilot																										
Energy Feedback	Printed FDBK	Aware use	975	8,760	Normal use	998	8,760	1.00	$0	$0	$0	#DIV/0!	0.0	0.0	198	0.02	0.02	$0.00	$0.00	70%	40,000	40,000	40,000	40,000	100%	100%
Energy Feedback	Electronic FDBK	Aware use	998	8,760	Normal use	998	8,760	1.00	$0	$0	$0	#DIV/0!	#DIV/0!	#DIV/0!	0	0.00	0.00	$0.00	$0.00	70%	10,000	10,000	10,000	10,000	100%	100%
Low Income																					**15,421**	**20,119**	**13,671**	**17,761**		

Electric Planning Assumptions																									
Measure Description		High Efficiency Product Assumptions			Baseline Product Assumptions			Economic Assumptions				Stipulated Output						Economic Assumptions		Technical Assumption	2012		2013			
Electric Measure Group	Electric Measure Description	Efficient Product Description / Rating	Efficient Product Consumption (watts)	Efficient Hours of Operation (hrs/yr)	Baseline Product Description / Rating	Baseline Product Consumption (watts)	Baseline Hours of Operation (hrs/yr)	Measure Lifetime (years)	Rebate Amount ($)	Average Baseline Product Cost ($)	Incremental Cost of Efficient Product ($)	Rebate as a % of Incremental Cost (%)	Incremt'l Cost Payback Period w/o Rebate (yrs)	Incremt'l Cost Payback Period w/ Rebate (yrs)	Annual Customer kWh Savings (kWh/yr)	Customer kW Savings (kW)	Generator Peak kW Savings (kW)	Non-Energy O&M Savings ($)	Energy O&M Savings ($)	Coincidence Factor (%)	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Energy Savings Kit																									
Lighting	CFLs in 2012	8 CFLs (4 x 13W and 4 x 20W)	132	1,180	8 Federal Minimum Standard incandescent bulbs	540	1,180	6.71	$11	$0	$11	100%	0.2	0.0	481	0.41	0.04	$0.00	$0.00	8%	6,898	10,000	0	0	100%	85%
Lighting	CFLs in 2013	8 CFLs (4 x 13W and 4 x 20W)	132	1,180	8 Federal Minimum Standard incandescent bulbs	452	1,180	6.32	$11	$0	$11	100%	0.3	0.0	377	0.32	0.03	$0.00	$0.00	8%	0	0	5,691	8,250	100%	85%
Showerheads	Low Flow Showerhead for Electric HW Home	1.5 GPM flow rate showerhead	4,500	84	Federal Minimum Standard flow rate 2.5 GPM	4,500	140	6.00	$2	$0	$2	100%	0.0	0.0	252	0.00	0.00	$9.33	$22.78	0%	1,034	1,500	853	1,238	100%	65%
Aerators	Low Flow Faucet Aerator for Electric HW Home	1.5 GPM flow rate aerator	4,500	51	Federal Minimum Standard flow rate 2.2 GPM	4,500	92	5.00	$2	$0	$2	100%	0.0	0.0	185	0.00	0.00	$4.84	$11.91	0%	1,034	1,500	853	1,238	100%	65%
Aerators	Low Flow Faucet Aerator for Electric HW Home	1.0 GPM flow rate aerator	4,500	29	Federal Minimum Standard flow rate 2.2 GPM	4,500	92	5.00	$2	$0	$2	100%	0.0	0.0	285	0.00	0.00	$8.30	$17.01	0%	1,034	1,500	853	1,238	100%	65%
Multi-Family Weatherization																									
Custom	Weatherization Measures	Upgraded Mechanical Equipment, Lighting, and Envelope	0	602	Low Efficiency Mechanical Equipment, Lighting, and Envelope	140,568	602	11.00	$18,925	$0	$18,925	100%	0.7	0.0	84,608	140.57	8.02	$0.00	$0.00	5%	12	12	12	14	100%	100%
Non-Profit Weatherization																									
Custom	Weatherization Measures	Upgraded Mechanical Equipment, Lighting, and Envelope	0	3,292	Low Efficiency Mechanical Equipment, Lighting, and Envelope	1,262	3,292	17.00	$2,016	$0	$2,016	100%	5.6	0.0	4,154	1.26	1.27	$0.00	$0.00	93%	25	223	25	400	100%	100%
Single Family Weatherization																									
Refrigerator Replacements	Refrigerator Replacements	2008 Energy Star standard refrigerator	55	7,361	existing unit vintage from 7-18 years old	134	7,361	7.27	$631	$420	$631	100%	9.5	0.0	584	0.08	0.09	$0.00	$0.00	100%	473	1,000	473	1,000	100%	100%
CFLS	Compact Fluorescent Lighting Package 16 lamps - 2012	High efficiency CFL lighting 16 bulbs	304	839	baseline is 16 incandescent bulbs	1,007	839	7.77	$44	$0	$44	100%	0.6	0.0	590	0.70	0.06	$0.00	$0.00	8%	1,985	4,200	0	0	100%	100%
CFLS	Compact Fluorescent Lighting Package 16 lamps - 2013	High efficiency CFL lighting 16 bulbs	304	839	baseline is 16 incandescent bulbs	929	839	7.38	$44	$0	$44	100%	0.7	0.0	525	0.63	0.05	$0.00	$0.00	8%	0	0	1,985	4,200	100%	100%
Ceiling Insulation	Ceiling R-11 to R-38 in electrically heated homes	DOE recommend level of insulation for CO Climate Zones R-38	9,030	2,126	Estimated existing level ≈ R 11	9,896	2,126	20.00	$715	$0	$715	100%	3.4	0.0	1,843	0.87	0.00	$0.00	$0.00	0%	54	115	54	115	100%	100%
Wall Insulation	Wall R-3 to R-11 in electrically heated homes	Assuming 2x4 construction, up to R-13 insulation can fit in wall cavity	8,821	2,126	No insulation in wall cavity	10,873	2,126	20.00	$670	$0	$670	100%	1.3	0.0	4,362	2.05	0.00	$0.00	$0.00	0%	33	69	33	69	100%	100%

Gas Planning Assumptions

Natural Gas Measure Group	Natural Gas Measure Description	High Efficiency Product Description / Rating	High Efficiency Product Consumption (Dth/yr)	Baseline Product Description / Rating	Baseline Product Consumption (Dth/yr)	Life of Product (years)	Average Rebate Amount	Average Baseline Product Cost	Average Incremental Cost of Efficient Product	Assumed Energy Cost ($/Dth)	Rebate as a % of Incremental Cost	Incremt'l Cost Payback Period w/o Rebate	Incremt'l Cost Payback Period with Rebate	Average Annual Customer Dth Savings	Average rebated cost per Dth Saved	Average rebated Lifetime cost per Dth Saved	Non-Energy O&M Savings	Energy O&M Savings	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Business																								
Heating Efficiency																								
New Boiler - Plan A-1	Non-condensing Hot Water Boiler, New 175 MBTUH for space heating only	85% Efficient Boiler	115	80% Efficient Boiler	122	20	$132	$3,000	$500		26%	11.99	8.8	7.20	$18.33	$0.92	0	0	2	2	2	2	97%	100%
New Boiler - Plan A-1	Non-condensing Hot Water Boiler, New 500 MBTUH for space heating only	85% Efficient Boiler	329	80% Efficient Boiler	350	20	$375	$5,000	$4,000		9%	33.57	30.4	20.58	$18.22	$0.91	0	0	3	3	3	3	97%	100%
New Boiler - Plan A-1	Non-condensing Hot Water Boiler, New 1 MMBTUH; for space and domestic water heating	85% Efficient Boiler	1,443	80% Efficient Boiler	1,533	20	$750	$7,300	$4,400		17%	8.43	7.0	90.19	$8.32	$0.42	0	0	4	4	4	4	97%	100%
New Boiler - Plan A-1	Non-condensing Hot Water Boiler, New 2 MMBTUH; forspace and domestic water heating	85% Efficient Boiler	2,886	80% Efficient Boiler	3,066	20	$1,500	$12,000	$5,000		30%	4.79	3.4	180.37	$8.32	$0.42	0	0	2	2	2	2	97%	100%
New Boiler - Plan A-1	Non-condensing Hot Water Boiler, New 4 MMBTUH; forspace and domestic water heating	85% Efficient Boiler	5,772	80% Efficient Boiler	6,133	20	$3,000	$24,000	$10,000		30%	4.79	3.4	360.74	$8.32	$0.42	0	0	1	1	1	1	97%	100%
New Boiler - Plan A-2	Condensing Hot Water Boiler, New 175 MBTUH; for space heating only	92% Efficient Boiler	115	80% Efficient Boiler	139	20	$613	$3,000	$1,600		38%	11.79	7.3	23.44	$26.14	$1.31	0	0	8	8	8	8	97%	100%
New Boiler - Plan A-2	Condensing Hot Water Boiler, New 500 MBTUH; for space heating only	92% Efficient Boiler	329	80% Efficient Boiler	396	20	$1,750	$5,000	$6,200		28%	15.99	11.5	66.96	$26.14	$1.31	0	0	15	20	15	20	97%	100%
New Boiler - Plan A-2	Condensing Hot Water Boiler, New 1 MMBTUH; forspace and domestic water heating	92% Efficient Boiler	1,443	80% Efficient Boiler	1,736	20	$3,500	$7,300	$7,700		45%	4.53	2.5	293.44	$11.93	$0.60	0	0	10	20	10	20	97%	100%
New Boiler - Plan A-2	Condensing Hot Water Boiler, New 2 MMBTUH; forspace and domestic water heating	92% Efficient Boiler	2,886	80% Efficient Boiler	3,473	20	$7,000	$12,000	$14,500		48%	4.27	2.2	586.87	$11.93	$0.60	0	0	2	4	2	4	97%	100%
New Boiler - Plan A-2	Condensing Hot Water Boiler, New 4 MMBTUH; forspace and domestic water heating	92% Efficient Boiler	5,772	80% Efficient Boiler	6,946	20	$14,000	$24,000	$29,000		48%	4.27	2.2	1173.74	$11.93	$0.60	0	0	1	1	1	1	97%	100%
New Boiler - Plan B	Condensing Hot Water Boiler, Replacement 175 MBTUH; for space heating only	92% Efficient Boiler	115	78% Efficient Boiler	142	20	$1,225	$0	$6,613		19%	42.31	34.5	26.99	$45.38	$2.27	0	0	10	10	10	10	97%	100%
New Boiler - Plan B	Condensing Hot Water Boiler, Replacement 500 MBTUH; for space heating only	92% Efficient Boiler	329	78% Efficient Boiler	406	20	$3,500	$0	$16,951		21%	37.96	30.1	77.12	$45.38	$2.27	0	0	10	20	10	20	97%	100%
New Boiler - Plan B	Condensing Hot Water Boiler, Replacement 1 MMBTUH; forspace and domestic water heating	92% Efficient Boiler	1,443	78% Efficient Boiler	1,781	20	$7,000	$0	$26,502		26%	13.54	10.0	337.96	$20.71	$1.04	0	0	6	12	6	12	97%	100%
New Boiler - Plan B	Condensing Hot Water Boiler, Replacement 2 MMBTUH; forspace and domestic water heating	92% Efficient Boiler	2,886	78% Efficient Boiler	3,562	20	$14,000	$0	$49,504		28%	12.65	9.1	675.92	$20.71	$1.04	0	0	1	1	1	1	97%	100%
New Boiler - Plan B	Condensing Hot Water Boiler, Replacement 4 MMBTUH; forspace and domestic water heating	92% Efficient Boiler	5,772	78% Efficient Boiler	7,124	20	$28,000	$0	$99,008		28%	12.65	9.1	1351.84	$20.71	$1.04	0	0	1	1	1	1	97%	100%
Water Heater	Commercial Hot Water Heater Condensing; 125 MBTUH	96% Efficient Water Heater	147	80% Efficient Water Heater	174	15	$350	$3,105	$901		39%	5.70	3.5	27.31	$12.82	$0.85	0	0	0	0	0	0	97%	100%
Water Heater	Commercial Hot Water Heater Condensing; 160 MBTUH	96% Efficient Water Heater	185	80% Efficient Water Heater	220	15	$350	$3,512	$1,018		34%	5.03	3.3	34.95	$10.01	$0.67	0	0	2	2	2	2	97%	100%
Water Heater	Commercial Hot Water Heater Condensing; 199 MBTUH	96% Efficient Water Heater	228	80% Efficient Water Heater	271	15	$350	$3,450	$1,000		35%	3.97	2.6	43.47	$8.05	$0.54	0	0	2	2	2	2	97%	100%
Water Heater	Commercial Hot Water Heater Condensing; 300 MBTUH	96% Efficient Water Heater	338	80% Efficient Water Heater	404	15	$350	$5,959	$1,728		20%	4.55	3.6	65.53	$5.34	$0.36	0	0	1	1	1	1	97%	100%
Water Heater	Commercial Tankless Water Heater - Condensing Condensing; 150 MBTUH	95% Efficient Water Heater	164	80% Efficient Storage Water Heater	205	15	$350	$4,284	$1,242		28%	5.20	3.7	41.23	$8.49	$0.57	0	0	2	2	2	2	97%	100%
Water Heater	Commercial Tankless Water Heater - Condensing Condensing; 199.9 MBTUH	97% Efficient Water Heater	218	80% Efficient Storage Water Heater	275	15	$350	$3,450	$1,000		35%	3.04	2.0	56.91	$6.15	$0.41	0	0	1	1	1	1	97%	100%
Pipe Insulation	Pipe Insulation Hot Water System	Pipe with new insulation	87	Pipe with no or old insulation	542	7	$5,742	$0	$7,496		77%	2.84	0.7	455.11	$12.62	$1.80	0	0	25	25	25	25	61%	100%
Pipe Insulation	Pipe Insulation Steam System	Pipe with new insulation	101	Pipe with no or old insulation	649	7	$4,311	$0	$10,816		40%	3.41	2.0	548.19	$7.86	$1.12	0	0	0	0	0	0	61%	100%
Tune-up	C&I Gas Boiler - Tune-Up assumed a 1-HW boiler at 80% eff 175 MBtuh	Boiler Tune-up - 2% additive improvement in efficiency; Boile now at 80% efficiency	253	Existing boiler at 78% efficiency	259	2	$44	$0	$1,000		4%	26.67	25.5	6.47	$6.76	$3.38	0	0	8	20	8	20	97%	100%
Tune-up	C&I Gas Boiler - Tune-Up assumed a 1-HW boiler at 80% eff 500 MBtuh	Boiler Tune-up - 2% additive improvement in efficiency; Boile now at 80% efficiency	721	Existing boiler at 78% efficiency	740	2	$125	$0	$1,000		13%	9.34	8.2	18.50	$6.76	$3.38	0	0	12	30	12	30	97%	100%
Tune-up	C&I Gas Boiler - Tune-Up assumed a 1-HW boiler at 80% eff 1 MMButh	Boiler Tune-up - 2% additive improvement in efficiency; Boile now at 80% efficiency	1,443	Existing boiler at 78% efficiency	1,480	2	$250	$0	$1,000		25%	4.67	3.5	37.00	$6.76	$3.38	0	0	15	40	15	40	97%	100%
Tune-up	C&I Gas Boiler - Tune-Up assumed a 1-HW boiler at 80% eff 2 MMBtuh	Boiler Tune-up - 2% additive improvement in efficiency; Boile now at 80% efficiency	2,886	Existing boiler at 78% efficiency	2,960	2	$500	$0	$1,000		50%	2.33	1.2	74.00	$6.76	$3.38	0	0	10	15	10	15	97%	100%
Outdoor Air Reset	C&I Gas Boiler - Outdoor Air Reset assumed a 1-HW boiler at 80% eff 175 Mbtuh	83% Efficient Boiler	243	80% Efficient existing boiler	253	20	$44	$0	$1,000		4%	18.92	18.1	9.13	$4.79	$0.24	0	0	1	2	1	2	97%	100%
Outdoor Air Reset	C&I Gas Boiler - Outdoor Air Reset assumed a 1-HW boiler at 80% eff 500 Mbtuh	83% Efficient Boiler	695	80% Efficient existing boiler	721	20	$125	$0	$1,000		13%	6.62	5.8	26.08	$4.79	$0.24	0	0	1	2	1	2	97%	100%
Outdoor Air Reset	C&I Gas Boiler - Outdoor Air Reset assumed a 1-HW boiler at 80% eff 1 MMButh	83% Efficient Boiler	1,391	80% Efficient existing boiler	1,443	20	$250	$0	$1,000		25%	3.31	2.5	52.16	$4.79	$0.24	0	0	1	1	1	1	97%	100%
Outdoor Air Reset	C&I Gas Boiler - Outdoor Air Reset assumed a 1-HW boiler at 80% eff 2 MMBtuh	83% Efficient Boiler	2,782	80% Efficient existing boiler	2,886	20	$500	$0	$1,000		50%	1.66	0.8	104.31	$4.79	$0.24	0	0	1	1	1	1	97%	100%
Stack Damper	C&I Gas Boiler - Stack Dampers assumed a 1-HW boiler at 80% eff 175 Mbtuh	81% Efficient Boiler	249	80% Efficient existing boiler	253	20	$44	$0	$500		9%	27.70	25.3	3.12	$14.03	$0.70	0	0	1	2	1	2	97%	100%
Stack Damper	C&I Gas Boiler - Stack Dampers assumed a 1-HW boiler at 80% eff 500 Mbtuh	81% Efficient Boiler	713	80% Efficient existing boiler	721	20	$125	$0	$500		25%	9.69	7.3	8.91	$14.03	$0.70	0	0	1	2	1	2	97%	100%
Stack Damper	C&I Gas Boiler - Stack Dampers assumed a 1-HW boiler at 80% eff 1 MMButh	81% Efficient Boiler	1,425	80% Efficient existing boiler	1,443	20	$250	$0	$1,000		25%	9.69	7.3	17.81	$14.03	$0.70	0	0	1	1	1	1	97%	100%
Stack Damper	C&I Gas Boiler - Stack Dampers assumed a 1-HW boiler at 80% eff 2 MMBtuh	81% Efficient Boiler	2,850	80% Efficient existing boiler	2,886	20	$500	$0	$1,000		50%	4.85	2.4	35.63	$14.03	$0.70	0	0	1	1	1	1	97%	100%
Modulating Burner	C&I Gas Boiler - Modulating Burner Controls, >=5 to 1 turn down assumed a 1-HW boiler at 80% eff 175 Mbtuh	83% Efficient Boiler	243	80% Efficient existing boiler	253	20	$131	$0	$3,808		3%	72.06	69.6	9.13	$14.38	$0.72	0	0	1	2	1	2	97%	100%
Modulating Burner	C&I Gas Boiler - Modulating Burner Controls, >=5 to 1 turn down assumed a 1-HW boiler at 80% eff 500 Mbtuh	83% Efficient Boiler	695	80% Efficient existing boiler	721	20	$375	$0	$3,808		10%	25.22	22.7	26.08	$14.38	$0.72	0	0	1	2	1	2	97%	100%
Modulating Burner	C&I Gas Boiler - Modulating Burner Controls, >=5 to 1 turn down assumed a 1-HW boiler at 80% eff 1 MMButh	83% Efficient Boiler	1,391	80% Efficient existing boiler	1,443	20	$750	$0	$8,422		9%	27.89	25.4	52.16	$14.38	$0.72	0	0	1	1	1	1	97%	100%
Modulating Burner	C&I Gas Boiler - Modulating Burner Controls, >=5 to 1 turn down assumed a 1-HW boiler at 80% eff 2 MMBtuh	83% Efficient Boiler	2,782	80% Efficient existing boiler	2,886	20	$1,500	$0	$8,422		18%	13.94	11.5	104.31	$14.38	$0.72	0	0	1	1	1	1	97%	100%
C&I Gas Boiler - Steam Traps	C&I Gas Boiler - Steam Traps Low Pressure - average of 10 and 15 PSI	New Steam Traps	2,441	Existing Boiler, malfunctioning steam traps	2,481	10	$50	$0	$200		25%	0.87	0.6	39.90	$1.25	$0.13	0	0	1	1	1	1	97%	100%
C&I Gas Boiler - Steam Traps	C&I Gas Boiler - Steam Traps High Pressure - average of 50 PSI and 65 PSI	New Steam Traps	2,392	Existing Boiler, malfunctioning steam traps	2,481	4	$50	$0	$200		25%	0.39	0.3	89.18	$0.56	$0.14	0	0	1	1	1	1	97%	100%
Boiler Efficiency Studies	Boiler Efficiency Studies	0%	0	0%	0	0	$3,000	$0	$6,000		50%	#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!	0	0	0	0	0	0	0%	0%
Furnaces	Furnaces (avg size-90,000 Btu/h)	93% Efficient Furnace	68	78% Efficient Furnace	82	15	$84	$668	$826		10%	10.85	9.8	13.15	$6.38	$0.43	0	0	40	40	40	40	77%	100%
Custom Efficiency																								
Custom	Custom Efficiency Measure	Varies by project	11,091	Varies by project	11,612	17	$2,082	$0	$16,892		12%	5.60	4.9	520.61	$4.00	$0.24	0	0	5	13	5	14	93%	100%
Energy Management Systems																								
Energy Management Systems	Average Project	Install new or Add to Existing EMS	568	No or very old EMS system	763	15	$777	$0	$8,750		9%	5.08	4.6	194.14	$4.00	$0.27	597	0	16	16	17	17	93%	100%
New Construction																								
Energy Design Assistance 2012	Standard Track	More Efficient than Code Building	3,186	Code-Compliant Building	4,807	20	$9,726	$0	$115,563		8%	12.31	11.3	1620.99	$6.00	$0.30	0	0	12	12	0	0	99%	100%
Energy Design Assistance 2012	Enhanced Track	More Efficient than Code Building	2,661	Code-Compliant Building	4,724	20	$12,521	$0	$147,080		9%	12.31	11.3	2063.08	$6.07	$0.30	0	0	15	15	0	0	99%	100%

Gas Planning Assumptions

Natural Gas Measure Group	Natural Gas Measure Description	High Efficiency Product Description / Rating	High Efficiency Product Consumption (Dth/yr)	Baseline Product Description / Rating	Baseline Product Consumption (Dth/yr)	Life of Product (years)	Average Rebate Amount	Average Baseline Product Cost	Average Incremental Cost of Efficient Product	Assumed Energy Cost ($/Dth)	Rebate as a % of Incremental Cost	Incremt'l Cost Payback Period w/o Rebate	Incremt'l Cost Payback Period with Rebate	Average Annual Customer Dth Savings	Average rebated cost per Dth Saved	Average rebated Lifetime cost per Dth Saved	Non-Energy O&M Savings	Energy O&M Savings	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Energy Design Assistance 2013	Standard Track	More Efficient than Code Building	6,559	Code-Compliant Building	9,895	20	$19,262	$0	$237,882		8%	12.31	11.3	3336.75	$5.77	$0.29	0	0	0	0	6	6	99%	100%
Energy Design Assistance 2013	Enhanced Track	More Efficient than Code Building	3,823	Code-Compliant Building	6,786	20	$16,039	$0	$211,284		8%	12.31	11.4	2963.67	$5.41	$0.27	0	0	0	0	7	7	99%	100%
Energy Efficient Buildings	Average EEB Project	More Efficient than Code Building	1,866	Code-Compliant Building	2,332	20	$1,866	$0	$33,249		6%	12.31	11.6	466.38	$4.00	$0.20	0	0	18	18	18	18	97%	100%
Recommissioning																								
Recommissioning	Implementation	Implemented Measures	30,306	Existing Facility	31,562	7	$3,447	$0	$8,820		39%	0.34	0.2	1256.35	$2.74	$0.39	32	18,370	2	2	2	2	90%	100%
Recommissioning	Study	Existing Facility	31,562	Existing Facility	31,562	7	$104	$0	$182		57%	#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!	0	0	6	6	6	6	90%	100%
Segment Efficiency																								
Commercial Real Estate	CRE Heating Efficiency	Existing Boiler Efficiency	1,443	Boiler of lower efficiency	1,781	20	$1,757	$0	$26,502		7%	13.54	12.6	337.96	$5.20	$0.26	0	0	1	1	1	1	94%	100%
Commercial Real Estate	CRE EMS	Install EMS	568	No EMS	763	15	$1,010	$0	$8,750		12%	6.52	5.8	194.14	$5.20	$0.35	219	0	1	1	1	1	94%	100%
Commercial Real Estate	CRE Custom Custom	Improved equipment or process	11,091	Old or less efficient equipment	11,612	17	$2,707	$0	$16,892		16%	5.60	4.7	520.61	$5.20	$0.31	0	0	1	1	1	1	94%	100%
Commercial Real Estate	CRE Recommissioning	Optimized Building Systens	30,306	Existing Building Systems - Not Tuned or Optimized	31,562	7	$6,533	$0	$8,820		74%	1.21	0.3	1256.35	$5.20	$0.74	0	0	1	1	1	1	94%	100%
Commercial Real Estate	Preliminary Report	Preliminary Report	0	0%	0	0	$0	$0	$263		0%	#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!	0	0	5	5	5	5	94%	100%
Commercial Real Estate	Investigative Study	Investigative Study	0	0%	0	0	$0	$0	$1,467		0%	#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!	0	0	0	0	0	0	94%	100%
Standard Offer																								
Standard Offer	Implementation	Implemented Measures	7,024	Existing Facility	7,653	15	$2,515	$0	$24,926		10%	0.35	0.3	628.80	$4.00	$0.27	-33	66,983	3	3	3	3	93%	100%
Standard Offer	TEA - Rebates	N/A	7,653	Existing Facility	7,653	15	$288	$0	$1,072		27%	#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!	0	0	3	3	3	3	93%	100%
Residential																								
Energy Star New Homes																								
Envelope Measures - Not Boulder	HERS 71-75	Energy Efficient Home	92	Code Compliant Home	114	20	$220	$0	$530		42%	4.29	2.5	22.67	$9.70	$0.49	0	0	1,102	1,102	1,102	1,102	92%	100%
Envelope Measures - Not Boulder	HERS 66-70	Energy Efficient Home	82	Code Compliant Home	115	20	$452	$0	$1,371		33%	7.84	5.3	32.09	$14.08	$0.70	0	0	998	998	998	998	92%	100%
Envelope Measures - Not Boulder	HERS 61-65	Energy Efficient Home	79	Code Compliant Home	121	20	$778	$0	$3,007		26%	13.08	9.7	42.21	$18.43	$0.92	0	0	299	299	299	299	92%	100%
Envelope Measures - Not Boulder	HERS 0-60	Energy Efficient Home	63	Code Compliant Home	109	20	$1,171	$0	$4,670		25%	18.56	13.9	46.20	$25.34	$1.27	0	0	98	98	98	98	92%	100%
Envelope Measures - Boulder Homes <3,000ft²	HERS 61-65	Energy Efficient Home	51	Code Compliant Home	51	20	$147	$0	$578		25%	666.67	497.1	0.16	$923.47	$46.17	0	0	34	34	49	49	92%	100%
Envelope Measures - Boulder Homes <3,000ft²	HERS 0-60	Energy Efficient Home	48	Code Compliant Home	51	20	$501	$0	$1,588		32%	97.69	66.9	2.98	$167.97	$8.40	0	0	49	49	83	83	92%	100%
Energy Star Appliances	Energy Star Dishwasher	Energy Star Dishwasher	2	Conventional Dishwasher	3	11	$45	$0	$182		25%	27.93	20.9	0.88	$51.65	$4.70	2	0	0	1,827	0	2,157	97%	100%
Energy Star Appliances	Energy Star Clothes Washer	Energy Star Clothes Washer	1	Conventional Clothes Washer	2	11	$8	$0	$25		33%	0.66	0.4	1.27	$6.52	$0.59	31	0	0	2,092	0	2,465	97%	100%
Heating Systems																								
Furnaces	Furnace AFUE 78 to 92	92 AFUE ENERGY STAR	55	78 AFUE is Federal Standard baseline efficiency for gas furnaces	64	18	$80	$770	$450		18%	8.42	6.9	9.81	$8.15	$0.45	0	0	77	77	77	77	77%	100%
Furnaces	Furnace AFUE 78 to 94	94 AFUE ENERGY STAR	54	78 AFUE is Federal Standard baseline efficiency for gas furnaces	64	18	$120	$770	$505		24%	8.44	6.4	10.98	$10.93	$0.61	0	0	6,200	6,200	6,200	6,200	77%	100%
Boilers	New 84% boiler	84 AFUE High Efficiency Unit	61	80 AFUE is federal baseline efficiency for boilers	64	18	$100	$2,520	$440		23%	26.93	20.8	3.00	$33.33	$1.85	0	0	223	223	223	223	77%	100%
Home Performance with Energy Star																								
Attic Insulation and Bypass Sealing	Attic Insulation and Bypass Sealing	Addition of attic insulation to R-40	79	R-19 average baseline existing level of insulation based on market study	85	20	$279	$0	$469		60%	14.59	5.9	5.90	$47.30	$2.37	0	0	48	182	72	272	94%	100%
Air Sealing and Weatherstripping	Air Sealing and Weatherstripping	25% reduction in ACH - 0.60 to 0.45 ACH	71	Default ACH for an existing Home in EnergyGauge has 0.60 ACH	79	10	$149	$0	$254		59%	6.29	2.6	7.40	$20.17	$2.02	0	0	36	137	54	205	94%	100%
Wall insulation: sub-siding or cavity	Wall insulation: sub-siding or cavity	R-11 insulation in wall cavity (assuming retrofit wall is 2x4 construction R-13 is max that could fit, given existing wall with interior discrepancies, R-11 is assumed actual level)	71	For this measure the baseline must have no existing wall cavity insulation	104	20	$694	$0	$1,864		37%	10.60	6.7	32.30	$21.48	$1.07	0	0	33	124	50	187	94%	100%
Setback Thermostat	Setback Thermostat	Energy Star Programable thermostat (assume 1 degree se back during heating, and 1 degree increase during cooling)	68	standard programable thermostat - not energy star	71	5	$25	$0	$50		50%	2.55	1.3	3.60	$6.94	$1.39	0	0	37	137	55	205	94%	100%
New Furnace	92 AFUE	Energy Star recommend 92 AFUE	63	78 AFUE is Federal Standard baseline efficiency for gas furnaces	71	18	$170	$770	$390		44%	9.18	5.2	7.80	$21.79	$1.21	0	0	1	4	2	6	94%	100%
New Furnace	94 AFUE	94 AFUE	62	78 AFUE is Federal Standard baseline efficiency for gas furnaces	71	18	$200	$770	$400		50%	8.35	4.2	8.80	$22.73	$1.26	0	0	3	12	5	18	94%	100%
New Boiler	84 AFUE	84 AFUE	68	80 AFUE is Federal Standard for gas boilers	71	18	$160	$2,754	$481		33%	29.42	19.6	3.00	$53.33	$2.96	0	0	1	2	1	3	94%	100%
New Water Heater	Tankless 0.82 EF	0.82 EF Tankless Hot Water Heater Energy Star Standard	65	for 40 gallon tank .59 EF is IECC code	71	20	$200	$640	$750		27%	23.34	17.1	5.90	$33.90	$1.69	0	0	2	6	2	9	94%	100%
New Water Heater	Power vented 0.65 EF	0.65 EF Hot Water Heater	69	for 40 gallon tank .59 EF is IECC code	71	15	$50	$640	$175		29%	15.30	10.9	2.10	$23.81	$1.59	0	0	1	2	1	3	94%	100%
New Appliances	0.65 EF Dishwasher	0.65 Energy Factor - Energy Star Recommended	6	0.46 Energy Factor - Federal Minimum Standard	19	11	$10	$0	$20		50%	0.28	0.1	12.72	$0.78	$0.07	1	0	16	61	25	92	94%	100%
New Appliances	Energy Star Clothes Washer	Energy Star Clothes washer	21	standard clothes washer	30	11	$46	$0	$131		35%	2.00	1.3	8.80	$5.19	$0.47	17	0	22	82	33	122	94%	100%
Insulation																								
Insulation Heating Effects	Attic insulation & bypass sealing (R-19 to R-40)	R-40 Insulation or higher	79	average home estimated to have R-19 existing based on study	85	20	$113	$0	$567		20%	12.57	10.1	5.90	$19.23	$0.96	0	13	6,164	7,460	6,164	7,460	89%	100%
Insulation Heating Effects	Air sealing & weather-stripping	25% reduction in air changes per hour - 0.45 ACH	71	EnergyGauge Default 0.60 ACH	79	10	$52	$0	$262		20%	5.84	4.7	7.40	$7.09	$0.71	0	5	802	971	802	971	89%	100%
Insulation Heating Effects	Wall insulation; sub-siding or cavity	R-11 insulation	85	Baseline assumes R-0 in wall cavities as existing level	117	20	$289	$0	$2,007		14%	9.17	7.8	32.30	$8.96	$0.45	0	43	1,034	1,251	1,034	1,251	89%	100%
Water Heating																								
Storage Tank Water Heaters	0.62 EF Hot Water Heater	0.62 EF Hot Water Heater	19	for 40 gallon tank .59 EF is IECC code	20	15	$25	$424	$126		20%	21.67	17.4	1.06	$23.48	$1.57	0	0	0	0	0	0	90%	100%
Storage Tank Water Heaters	0.65 EF Hot Water Heater	0.65 EF Hot Water Heater	18	for 40 gallon tank .59 EF is IECC code	20	15	$70	$424	$340		21%	30.55	24.3	2.04	$34.25	$2.28	0	0	700	700	300	300	90%	100%
Storage Tank Water Heaters	0.67 EF Hot Water Heater	0.67 EF Hot Water Heater Energy Star Standard in 2010	17	for 40 gallon tank .59 EF is IECC code	20	15	$90	$424	$361		25%	25.02	18.8	2.65	$33.98	$2.27	0	0	700	700	900	900	90%	100%
Tankless Water Heaters	0.82 EF Tankless Hot Water Heater	0.82 EF Tankless Hot Water Heater Energy Star Standard	14	for 40 gallon tank .59 EF is IECC code	20	20	$100	$549	$298		34%	9.27	6.2	5.89	$16.96	$0.85	0	0	1,670	1,670	1,770	1,770	90%	100%
Energy Feedback Pilot																								
Energy Feedback	Printed FDBK	Aware use	84	Normal Use	85	1	$0	$0	$0		#DIV/0!	0.00	0.0	0.59	$0.00	$0.00	0	0	40,000	40,000	40,000	40,000	100%	100%
Energy Feedback	Electronic FDBK	Aware use	85	Normal Use	85	1	$0	$0	$0		#DIV/0!	#DIV/0!	#DIV/0!	0.00	#DIV/0!	#DIV/0!	0	0	10,000	10,000	10,000	10,000	100%	100%
Low Income																								
Energy Savings Kit																								
Showerhead	Low flow showerhead in natural gas HW home	1.5 GPM flow rate showerhead	2	Federal Minimum Standard flow rate 2.5 GPM	3	6	$2	$0	$2		100%	0.08	0.0	1.31	$1.85	$0.31	9	14	3,333	8,500	2,750	7,013	100%	65%

Gas Planning Assumptions

Natural Gas Measure Group	Natural Gas Measure Description	High Efficiency Product Description / Rating	High Efficiency Product Consumption (Dth/yr)	Baseline Product Description / Rating	Baseline Product Consumption (Dth/yr)	Life of Product (years)	Average Rebate Amount	Average Baseline Product Cost	Average Incremental Cost of Efficient Product	Assumed Energy Cost ($/Dth)	Rebate as a % of Incremental Cost	Incremt'l Cost Payback Period w/o Rebate	Incremt'l Cost Payback Period with Rebate	Average Annual Customer Dth Savings	Average rebated cost per Dth Saved	Average rebated Lifetime cost per Dth Saved	Non-Energy O&M Savings	Energy O&M Savings	2012 Participants (-)	2012 Units (-)	2013 Participants (-)	2013 Units (-)	NTG (%)	Installation Rate (%)
Aerator	Low flow faucet aerator in natural gas HW home	1.5 GPM flow rate aerator	1	Federal Minimum Standard flow rate 2.2 GPM	2	5	$2	$0	$2		100%	0.08	0.0	0.69	$2.41	$0.48	5	13	3,333	8,500	2,750	7,013	100%	65%
Aerator	Low flow faucet aerator in natural gas HW home	1.0 GPM flow rate aerator	1	Federal Minimum Standard flow rate 2.2 GPM	2	5	$2	$0	$2		100%	0.06	0.0	0.98	$1.69	$0.34	8	14	3,332	8,500	2,749	7,013	100%	65%
Multi-Family Weatherization																								
Custom	Weatherization Measures	Upgraded Mechanical Equipment, Lighting, and Envelope	0	Low Efficiency Mechanical Equipment, Lighting, and Envelope	566	11	$28,415	$0	$28,415		100%	8.68	0.0	565.67	$50.23	$4.57	0	0	12	12	12	12	100%	100%
Non-Profit Weatherization																								
Custom	Weatherization Measures	Upgraded Mechanical Equipment, Lighting, and Envelope	0	Low Efficiency Mechanical Equipment, Lighting, and Envelope	82	17	$6,215	$0	$6,215		100%	13.09	0.0	82.00	$75.78	$4.46	0	0	25	85	25	85	100%	100%
Single Family Weatherization																								
Ceiling Insulation	Ceiling R-11 to R-38	DOE recommend level of insulation for CO Climate Zones R-38	82	Estimated existing level = R 11	90	20	$715	$0	$715		100%	16.62	0.0	7.90	$90.51	$4.53	0	0	711	1,046	711	1,046	100%	100%
Wall Insulation	Wall R-3 to R-11	Assuming 2x4 construction, up to R-13 insulation can fit in wall cavity	80	No insulation in wall cavity	99	20	$670	$0	$670		100%	6.58	0.0	18.70	$35.83	$1.79	0	0	431	634	431	634	100%	100%
Furnace Replacement	Replace Furnace AFUE 78 to 92	Energy Star recommend 92 AFUE	79	78% efficiency measured	90	18	$623	$2,000	$623		100%	10.30	0.0	11.10	$56.13	$3.12	0	0	485	713	485	713	100%	100%

Appendix A – List of Acronyms

Acronym	Meaning
ACEE	American Council for an Energy Efficient Economy
AFUE	Annual Fuel Utilization Efficiency
ASHRAE	American Society of Heating Refrigeration & Air Conditioning Engineers
BOMA	Building Owners and Managers Association
BSC	Business Solutions Center
CE (Minnesota)	Center for Energy and the Environment
CE (Boston)	Consortium for Energy Efficiency
CFL	Compact Fluorescent Light Bulb
CFM	Cubic Feet Per Minute
CPUC	Colorado Public Utilities Commission
DOE	Department of Energy
DSM	Demand-Side Management
DSMCA	Demand-Side Management Cost Adjustment
EEBC	Energy Efficiency Business Coalition
EER	Energy Efficiency Ratio
EF	Energy Factor
EIA	Energy Information Administration
EMS	Energy Management System
EM&V	Evaluation, Measurement & Verification
EOC	Energy Outreach Colorado
EPA	Environmental Protection Agency
ESCO	Energy Services Company
GAMA	Gas Appliance Manufacturer's Association
GEO	Governor's Energy Office
GPM	Gallons per Minute
HERS	Home Energy Rating System
HVAC	Heating, Ventilation, and Air Conditioning
IPMVP	International Performance Measurement and Verification Protocol
LIHEAP	Low-Income Home Energy Assistance Program
M&V	Measurement and Verification
NAIOP	National Association of Industrial and Office Properties
NEEP	Non-Profit Energy Efficiency Initiative
NEMA	National Electrical Manufacturers Association
NTG	Net-to-gross
O&M	Operations and Maintenance
RAP	Resource Action Programs
RESNET	Residential Energy Services Network
SEER	Seasonal Energy Efficiency Ratio
TRC	Total Resource Cost Test
VFD	Variable Frequency Drive

➢ Appendix B – Product Ranking

DSM Product rankings are established by determining market segments that could participate in the product, customer classes available, total projected savings, cost effectiveness, and participation rates (as a number and a percent of the market). This ranking is a requirement from Gas Rules 723-4, Docket No. 07R-371G. The tables below show the 2012 and 2013 Product rankings.

Colorado 2012/2013 DSM Products	Product Ranking
Home Lighting & Recycling	1
Lighting Efficiency	2
Motor & Drive Efficiency	3
Evaporative Cooling Rebates	4
Energy Savings Kit	5
Standard Offer	6
Saver's Switch	7
Insulation Rebate	8
Small Business Lighting	9
School Education Kits	10
Computer Efficiency	11
New Construction	12
Cooling Efficiency	13
Energy Management Systems	14
Recommissioning	15
Process Efficiency	16
Data Center Efficiency	17
Custom Efficiency	18
Heating System Rebates	19
Compressed Air Efficiency	20
Self-Directed Custom Efficiency	21
ENERGY STAR New Homes	22
Single-Family Weatherization	23
High Efficiency Air Conditioning	24
Refrigerator Recycling	25
Home Performance with ENERGY STAR	26
Segment Efficiency	27
Water Heater Rebate	28
Heating Efficiency	29
Non-Profit Energy Efficiency	30
Multi-Family Weatherization	31

➢ Appendix C – Avoided Cost Assumptions

The following sections summarize the avoided cost assumptions Public Service has made in order to perform the cost-effectiveness tests for electric and gas programs, and for which the Company is asking for approval of for use in the status reports and incentives calculations for 2012-2013 achievements.

Electric Programs

In order to determine the cost-effectiveness of its electric energy efficiency and load management programs, Public Service must first calculate the avoided generation, transmission, distribution, and marginal energy costs these programs avoid. Below are tables showing the avoided cost assumptions used in this plan.

1. Estimated Annual Avoided Generation Capacity Costs (Source: Public Service Resource Planning)

Capacity costs reflect the generic capacity cost estimates used in the Public Service Company of Colorado's 2012 Renewable Energy Standard Compliance Plan (Docket No. 11A-418E) for the two types of avoided electric generation – a gas-fired combustion turbine (CT) and a gas-fire combined-cycle plant (CC).

	CT	CC		CT	CC
Year	**Gen Capacity $/kW-mo**	**Gen Capacity $/kW-mo**	**Year**	**Gen Capacity $/kW-mo**	**Gen Capacity $/kW-mo**
2012	$12.28	$14.08	**2023**	$15.07	$17.04
2013	$12.51	$14.33	**2024**	$15.35	$17.34
2014	$12.75	$14.58	**2025**	$15.64	$17.65
2015	$12.99	$14.83	**2026**	$15.93	$17.96
2016	$13.23	$15.09	**2027**	$16.23	$18.27
2017	$13.48	$15.36	**2028**	$16.53	$18.59
2018	$13.74	$15.63	**2029**	$16.84	$18.92
2019	$13.99	$15.90	**2030**	$17.16	$19.25
2020	$14.26	$16.18	**2031**	$17.48	$19.59
2021	$14.52	$16.46	**2032**	$17.80	$19.93
2022	$14.79	$16.75			

2. Estimated Annual Avoided Transmission and Distribution Capacity Costs (Source: Public Service Resource Planning)

Review by Resource Planning determined that $30/kW-yr is a reasonable estimate of the benefit of Transmission and Distribution capacity for 2012. This value is escalated at the current 2.36% escalation rate for all following years based on the Company's corporate general escalation factor updated by Corporate Finance in May 2011.

Year	$/kW-yr
2012	$30.00
2012+	Escalated at 2.36%

3. Estimated Annual Avoided Marginal Energy Costs (Source: Public Service Resource Planning and Quantitative Risk Services)

Avoided marginal energy costs reflect the assumed gas forecast and heat rates used in the Public Service Company of Colorado's 2012 Renewable Energy Standard Compliance Plan (Docket No. 11A-418E) for the two types of avoided electric generation – a gas-fired combustion turbine (CT) and a gas-fire combined-cycle plant (CC).

	CT	CC		CT	CC
Year	Marginal Energy $/MWh	Marginal Energy $/MWh	Year	Marginal Energy $/MWh	Marginal Energy $/MWh
2012	$66.65	$39.44	**2023**	$108.61	$66.20
2013	$71.03	$42.28	**2024**	$112.98	$68.98
2014	$75.43	$45.13	**2025**	$115.79	$70.70
2015	$81.09	$48.83	**2026**	$115.56	$70.33
2016	$85.08	$51.39	**2027**	$116.91	$71.04
2017	$86.76	$52.38	**2028**	$120.27	$73.12
2018	$89.93	$54.37	**2029**	$123.96	$75.41
2019	$93.42	$56.57	**2030**	$127.97	$77.92
2020	$96.60	$58.56	**2031**	$130.95	$79.71
2021	$100.00	$60.70	**2032**	$133.93	$81.51
2022	$104.14	$63.34			

4. Estimated Annual Avoided Emissions Costs (includes CO_2) (Source: Public Service Resource Planning)

In the Public Service Company of Colorado's 2012 Renewable Energy Standard Compliance Plan (Docket No. 11A-418E), the base-case assumed zero cost for CO2 emissions. For this reason, this value is set to $0 for all future years. We plan to address carbon assumptions in our upcoming Resource Plan, but because all of our programs are cost-effective with the $0 cost assumption, it does not impact our current plan.

Gas Programs

In order to determine the cost-effectiveness of its gas programs, Public Service must calculate the avoided commodity cost of gas, avoided capacity costs and any avoided variable O&M costs associated with the gas energy efficiency savings. Below are tables showing the avoided cost assumptions used in this Plan.

1. Estimated Commodity Cost of Gas (Source: Public Service Gas Resource Planning)

The following table outlines the current gas price forecast as of April 2011 using a market snapshot for short-term prices and a quantitative average of projections from well-known forecasting services for the long-term forecast prices.

Year	$/Dth	Year	$/Dth
2012	$4.89	2023	$8.49
2013	$5.30	2024	$8.87
2014	$5.66	2025	$9.11
2015	$6.14	2026	$9.07
2016	$6.50	2027	$9.14
2017	$6.64	2028	$9.42
2018	$6.90	2029	$9.73
2019	$7.19	2030	$10.07
2020	$7.45	2031	$10.31
2021	$7.75	2032	$10.55
2022	$8.11		

2. Estimated Avoided Variable O&M Costs (Source: Public Service Pricing and Planning)

The company used the following value provided by the Company's Pricing and Planning department to determine variable O&M costs avoided with a reduction in gas usage.

Year	$/Dth
2012-2030	$0.05

4. Estimated Annual Avoided Reservation Costs (used to estimate capacity savings – Peak Day Dth savings estimated as 1% of annual Dth savings) (Source: Public Service Gas Resource Planning)

The following annual avoided reservation costs was used to determine the cost of service to transport incremental gas supplies to the metropolitan Denver area. The Company uses the CIG firm transportation rate to estimate this cost.

Year	$/Dth
2012-2030	$56.37

➢ Appendix D – Budget Categories

The following chart indicates how projected DSM expenditures are divided between the budget categories.

Budget Category	**Components**
Product Planning & Design	• Labor for product development and product managers. • Expenditures related to product development, product planning and design.
Administration & Product Delivery	• Labor for product managers, sales representatives, call center, rebate processing, technical consulting, and other fulfillment activities associated with delivering a product directly to the customer. • Labor for installation contractors, vendors, technical consultants, fulfillment contractors and alternative providers that Xcel Energy contracts with to provide DSM services. • Project fulfillment, implementation and program support activities associated with delivering a program directly to the customer.
Advertising, Promotions & Customer Education	• Labor for communication staff and others. • TV, radio, newspaper and print media; direct promotion and sales support materials; postage, promotional events; contracted outbound telephone sales. • Customer education through seminars, pamphlets, videos, and computer games.
Incentives	• Customer rebates, finance interest subsidies, subsidies for engineering studies, trade incentives, and incentives given in the form of subsidized products or equipment.
Equipment & Installation	• The costs to purchase energy efficient equipment and to install efficient equipment at the customer site.
Measurement & Verification	• Labor for market research and load research. • Labor product development staff, product development external consultants, product development research activities. • Customer surveys, program evaluation expenses.

➢ Appendix E - Technical Reference Manual

The Technical Reference Manual section contains the deemed savings technical assumption electronic files that are provided as part of the overall 2012/2013 Biennial DSM Plan.

The deemed savings technical assumptions describe the calculation methodology and assumptions that will be used to determine actual savings, costs, and other values for each product rebate as it is processed. These calculation methodologies and assumptions are then applied to the population and the forecasted number of participants for each product, which is presented in the planning assumptions section of the 2012/2013 Biennial DSM Plan. The planning assumptions are essentially estimates of the energy consumption impacts and other measure-specific factors for each product, and are used to conduct the benefit-cost analysis for products in this Plan.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Custom Efficiency

Customer may apply for rebate under the Custom Efficiency product for gas or electric projects not listed under prescriptive rebate products. Each Custom Efficiency project will be analyzed individually by Xcel Energy. Technical variables required for the analysis will be obtained from the customer or vendor. Analysis will be based on standard engineering methodologies.

Calculations:

Electrical energy savings and electrical demand savings will be calculated based on the project specific details. Each project will undergo an engineering review in accordance with standard engineering practices. The review will be in accordance with the calculation methodologies detailed in the prescriptive products where applicable.

A net-to-gross factor of 87% will be used for electric custom projects, referenced National Energy Efficiency Best Practices Report (http://www.eebestpractices.com) A net-to-gross factor of 93% will be used for custom gas projects which assumes 1/2 of the free rider rate for electric because gas products are new offerings in Colorado.

A transmission distribution loss factor of **6.50**% will be used for Custom Efficiency projects.

Product Life will be evaluated for each project, lives for end use technologies will be in accordance with prescriptive products where applicable

Operation and Maintenance Savings will be evaluated for each project.

Changes from 2011

No changes.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Compressed Air Efficiency

Custom and prescriptive rebates will be offered under the compressed air product. Prescriptive rebates are available for Variable Frequency Drive Compressors that are less than 50 hp, and no air loss drain valves. Other measures may receive rebates through the Custom Efficiency product. Each custom efficiency project will be analyzed individually by Xcel Energy. Engineering variables required for the analysis will be obtained from the customer or vendor. Analysis will be based on standard engineering methodologies.

Algorithms:

VFD Comp Electrical Demand Savings (Customer kW)	= HP x Service Factor x 0.746 x (%_Load_b / Motor_Effb - %_Load_h / Motor_Effh)
VFD Comp Electrical Energy Savings (Customer kWh)	= Demand Savings (Customer kW) x VFD_Hours
No Loss Air Drains Electrical Energy Savings (Customer kWh)	= Number_of_Drains x kW_per_Drain x Drain_Hours
No Loss Air Drains Electrical Demand Savings (Customer kW)	= Number_of_Drains x kW_per_Drain

Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

HP	= HP of new Compressor provided by the customer
Service_Factor	= Service factor of the motor, we will use 1.1 (Reference 1)
0.746	= Standard conversion from HP to kW.
%_Load_b	= Average percent loading for baseline compressor = 0.8952 as calculated on %BHP to %Flow tab
%_Load_h	= Average percent loading for VFD compressor = 0.61 as calculated on %BHP to %Flow tab
Motor_Eff_b	= Efficiency of existing compressor motor as determine in Table 1 using customer provided HP.
Motor_Eff_h	= Efficiency of new compressor motor as determine in Table 1 using customer provided HP.
VFD_Hours	= Operating hours of compressors from Table 1.
Drain_Hours	= Operating hours of compressed air systems. We will use 5823 hours which is an average of completed CO custom compressed air project hours.
Number_of_Drains	= Number of drains replaced will be provided by the customer
kW_per_Drain	= kW savings per drain, we will use 0.53 kW per calculations on Forecast NLAD tab.
TDLF	Transmission-Distribution Loss Factor = 6.5%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing SRD-2
CF_VFD	= Coincidence Factor - Probability that the measure peak demand reduction will occur at the same time as the grid peak demand, we will use 88.8% for small VFD compressors based on historic small VFD compressor projects in MN and CO.
CF_NLAD	= Coincidence Factor - Probability that the measure peak demand reduction will occur at the same time as the grid peak demand, we will use 69% for No Loss Air Drains based on historic custom compressed air projects in CO.
NTG	Net-to-gross = We will use 87% for Compressed Air projects (Reference 2)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Incremental operation and maintenance cost	= 0 - conservative approach, taking no credit for improved mean time between failure.
Incremental Cost of Efficient Equipment	= Incremental cost of efficient measures from Table 2. Compared to the do-nothing option.

Provided by Customer:
Size of Compressor
Number of Drains
Whether compressor is new or a replacement

Verified during M&V:
Yes
Yes

Assumptions:
VFD Compressors<50 hp
Compressed air system in which VFD compressor is installed must have a capacity < 50hp.
Existing compressor was a non-reciprocating load/no load type with a minimum of 1 gallon of storage per cfm capacity, or modulation with or without unload.
No Loss Air Drains
Compressor must be one of the following:
Load/no-Load with at least 5 gal/CFM of storage (180 CFM compressor would need to have 5*180=900 gallons of storage or more)
Variable Speed Drive compressor
Variable Displacement/Capacity compressor
Centrifugal compressors in their efficient trim range without any blowoff to atm.

Table 1. Motor Efficiencies from NEMA

Compressor HP	Motor Description	Plan A Baseline Motor Efficiency	Plan B Existing Compressor Motor Efficiency	Plan A and Plan B New Compressor Motor Efficiency	Operating Hours
10	10 HP 1800 RPM ODP	89.5%	86.3%	89.5%	3391
15	15 HP 1800 RPM ODP	91.0%	87.2%	91.0%	3391
20	20 HP 1800 RPM ODP	91.0%	88.1%	91.0%	3391
25	25 HP 1800 RPM ODP	91.7%	88.9%	91.7%	4067
30	30 HP 1800 RPM ODP	92.4%	89.4%	92.4%	4067
40	40 HP 1800 RPM ODP	93.0%	89.7%	93.0%	4067

Existing Compressor Motor Efficiency values are from Pre-EPAC motors
Plan A Existing Compressor Motor Efficiency and New Compressor Motor Efficiency values are from
Operating hours from completed MN and CO custom projects 2007-2008
Compressor hours from United States Industrial Electric Motor Systems Market Opportunities Assessment, EERE, US DOE, Dec 2002 - Source for operating hours for industrial motors and source for load factor (Table 1-18 and 1-19)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 2. Incremental Costs for Efficient Measures	Replacment Program (Plan B)	New Program (Plan A)
10 HP VFD Compressor	$10,841	$2,577
15 HP VFD Compressor	$14,018	$2,694
20 HP VFD Compressor	$16,879	$3,609
25 HP VFD Compressor	$19,561	$5,149
30 HP VFD Compressor	$24,357	$7,212
40 HP VFD Compressor	$27,429	$7,468
No Loss Air Drain	$448	

Compressor prices are the average price from three retailers plus $1500 for installation as calculated on VFD info tab
NLAD price is average of nine retailers prices as calculated on Forecast NLAD tab

Changes from 2011
No changes.

References
(1) Service factor (1.1) from Compressed Air & Gas Institute (CAGI) standards comparing Nameplate HP to actual BHP @ 100% Full rated pressure and flow
(2) National Energy Efficiency Best Practices Report (http://www.eebestpractices.com)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Program: Computer Efficiency

Manufacturer incentives will be offered for desktop computers that are either Energy Star or 80 Plus labeled. Incentives are administered via Ecos Plug Load Solutions PLS. Prescriptive rebates offered for end-use customers for installing VDI (Virtual Desktop Infrastructure) devices, also known as "Thin Client" systems instead of new PCs.

Algorithms:

Electrical Energy Savings (Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Generator kW)	= Customer kW x CF / (1-TDLF)

Upstream Manufacturer Incentives:

Desktop Computer Electrical Demand Savings (Customer kW Savings)	= (Baseline Computer kW - Efficient PS Computer kW) * Cooling kW factor Values listed in Table 3.
Desktop Computer Electrical Energy Savings (Customer kWh Savings)	= (Baseline Computer kWh - Efficient PS Computer kWh) * Cooling kWh factor Values listed in Table 3.

Desktop PC Virtualization:

VDI Electrical Demand Savings (Customer kW)	= Baseline Computer kW - Virtualized kW * Cooling kW factor
VDI Electrical Energy Savings (Customer kWh)	= Baseline Computer kWh - Virtualized kWh * Cooling kWh factor

Variables:

TDLF	Transmission Distribution Loss Factor = 6.64%, the percentage loss of electricity as it flows from the power plant to the customer.
Cooling kW factor	Average annual demand of cooling system necessary to cool the heat gain from the equipment = 33% of baseline and VDI kW = 1.33 (Reference 13)
Cooling kWh factor	= Average annual energy of cooling system necessary to cool the heat gain from the equipment = 11% of baseline and VDI kWh = 1.11 (Reference 13)
CF	Coincidence Factor = 100%
PC Frequency	PC Frequency of Operating Patterns = assumed % of the population that enables power management software in one of four available configurations (power management enabled, computer turned off; power management not enabled, computer turned off; power management enabled, computer left on; power management not enabled, computer left on (Ref 4); this is used to estimate average kWh usage over the entire population. Values listed in Table 2.

UEC	Unit Energy Consumption = sum of the products of the wattages and the annual hours in the four states of operation (active, idle, sleep, off) = (Active Wattage *Active Annual Hours of Operation)+(Idle Wattage * Idle Annual Hours of Operation)+(Sleep Wattage * Sleep Annual Hours of Operation)+(Off Wattage*Off Annual Hours of Operation) = Wattages are shown in Table 1 and Hours in each state are shown in Table 2. UEC for each computer model is shown in Table 3

Upstream Manufacturer Incentives (Desktops):

Baseline Computer kW	= Baseline Computer kWh/8760 = = 66.9 watts
Baseline Computer kWh	= UEC * PC Frequency = 586
Measure Life	= 4 years for desktop computers (Ref 1)
Hrs	Hours of Operation = Determined by dividing the average kWh by the average kW (Assumption 2)
Incremental Costs	Cost of high efficiency model over baseline model as listed in Table 1.
NTG	Net-to-Gross = Calculated by applying a market penetration % to the wattage and kilowatt-hour savings amount at the four efficiency levels. Values are shown in Table 4 below, we will use 88% for all measures for simplification.
O&M savings	Operation and Maintenance savings are assumed to be zero for desktop computers.

Desktop PC Virtualization:

Baseline Computer kW	= Baseline Computer kWh/8760 = = 66.9 watts
Baseline Computer kWh	= UEC * PC Frequency for ENERGY STAR 3.0 Computers = 586
VDI kW	= kW of VDI product (provided by the customer)
Incremental Server kW	Server load per installed VDI device = Total average server Watts (303W) / 68 desktops per server = 4.46 Watts (Ref 9)
Virtualized kW	VDI kW + Incremental Server kW
Virtualized kWh	Virtualized kW x hours
Measure Life	= 10 years (Ref 10)
Hours	Hours of Operation of efficient equipment = VDI equipment assumed to be on 8,760 hours per year
Incremental Costs	Cost of higher efficiency option over baseline option = $117 (Ref 6)

NTG	Net-to-Gross = Calculated by applying a market penetration % of the efficient computer power supplies to the wattage and kilowatt-hour savings amount at five baseline levels. If our program was not in place, some of the customers that bought VDI boxes would have bought desktop computers at ESTAR 4 or higher. = 92%
O&M savings	Operation and Maintenance savings are assumed to be 1/2 hour per year per desktop, O/S licenses assumed to be $12/year per desktop. The additional costs associated with the additional heating costs due to the reduced heat generation from the equipment is also treated as O & M penalty (reference 13)

Info needed from Customer/Vendor Administrator for Calculations:

Desktop PC Virtualization:

# of VDI (thin client) devices installed instead of a desktop PC computer

kW of VDI device

Table 1: Desktop Computer Wattages

Desktop Computer	Avg Active Watts (W)	Idle (W)	Sleep (W)	Off /Standby (W)	Incremental Cost (reference 5)	
Baseline: ES 3.0	115	84	6	3		Reference 2
ES 4.0 or 80 Plus Qualified	111	66	3.4	1.7		Reference 5
ES 5.0 or 80 Plus Bronze Qualified	89	46	2	0.9	$9.00	Reference 5
ES 5.0 or 80 Plus Silver Qualified	86	46	2	0.9	$18.00	Reference 5
ES 5.0 or 80 Plus Gold Qualified	84	46	2	0.9	$27.00	Reference 5
ES 5.0 or 80 Plus Platinum Qualified	82	46	2	0.9	$36.00	Reference 5

Table 2: Annual Hours in each Operational State and Frequency of PC Operation Patterns (PC Frequency)

Computer State	Active (Hrs/year)	Idle (Hrs/year)	Sleep (Hrs/year)	Standby / Off (Hrs/year)	PC Frequency
Power managed, turned off	586	5,276	431	2,467	12%
Not power managed, turned off	586	5,707	0	2,467	66%
Power managed, left on	586	5,276	2,898	0	3%
Not power managed, left on	586	8,174	0	0	19%
Weighted average					3%

Table 3: Energy and Demand Savings (Reference 1-5)

Desktop Computer	UEC	Computer Watts	Computer kWh/yr	Cooling Watts	Cooling Peak kWh	Customer kW Savings	Customer kWh Savings
Baseline: ES 3.0	2353.9	66.9	585.9	22.07	64		
ES 4.0 or 80 Plus Qualified	1892.5	53.8	471.7	17.77	52	0.0173	127
ES 5.0 or 80 Plus Bronze Qualified	1343.6	38.2	334.9	12.62	37	0.0381	279
ES 5.0 or 80 Plus Silver Qualified	1336.6	38.0	333.2	12.55	37	0.0384	281
ES 5.0 or 80 Plus Gold Qualified	1333.4	37.9	332.1	12.51	37	0.0385	282
ES 5.0 or 80 Plus Platinum Qualified	1328.7	37.8	330.9	12.47	36	0.0387	283

Table 4: Net-to-Gross Calculation: Upstream Manufacturer Incentives (Desktops)

Desktop Computer	CO Market Penetration % (ref 12)	Net Customer kW Saved	Net Customer kWh Saved	NTG
ES 4.0 or 80 Plus Qualified	10%			
ES 5.0 or 80 Plus Bronze Qualified	5%	0.0252	221	87.9%
ES 5.0 or80 Plus Silver Qualified	0%	0.0254	222	88.0%
ES 5.0 or 80 Plus Gold Qualified	2.5%	0.0255	224	88.1%
ES 5.0 or 80 Plus Platinum Qualified	0%	0.0256	225	88.1%
Average				88.00%

References:

1. Koomey, J., M. Cramer, M.A. Piette and J. Eto. 1995. "Efficiency Improvements in U.S. Office Equipment: Expected Policy Impacts and Uncertainties." Lawrence Berkeley Laboratory. LBL-37383. December. Table 3.

2. Energy Star Calculator Tool; LBNL 2007 or Energy Star Specification

3. Hours of operation for desktop computers from office desktops/laptops and office monitors from Piette, M. A., M. Cramer, J. Eto and J. Koomey. 1995. "Office Technology Energy Use and Savings Potential in New York." Prepared for the NY State Energy R&D Authority and Con-Ed by LBNL. Lawrence Berkeley Laboratory. LBL-36752. January 1995. p. 4-2

4. LBNL Estimate based on Reference 3

5. Ecos Consulting information from manufacturers

6. Vendor data; see "Ref Cost-PC Virt" worksheet

7. Baseline desktop PC cost assumed at $600; info from the internet indicates a PC with keyboard averages between $300-$1,000 or $650; assumed the keyboard is $50 of that (Ref 6)

8. Costhelper.com

9. Server Wattages from Custom Efficiency program participant; average wattage of 42 models

10. 10-year life for thin-client and zero-client based on conversation with MN vendor Nowmicro

11. Assumed server utilization rate of 80% of nameplate capacity based on custom efficiency projects in MN and CO 2008-2011

12. Colorado market penetration initially assumed as 50% of current market penetration in Minnesota because Minnesota is a more mature market; Minnesota data from Ecos Consulting

13. Colorado Commercial Lighting Program (cooling benefit is 33% of equipment kW savings, 11% of equipment kWh savings and heating penalty is 0.00088738 MMBtu/kWh)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Cooling Efficiency

Prescriptive rebates will be offered for new cooling equipment. Rebates for most measures are dependent on size and on meeting a minimum efficiency. Additional rebates are available for better efficiencies than the minimum qualifying efficiencies.

Custom rebates are available for cooling-related improvements that are not covered by the aforementioned prescriptive rebates. These would include such applications as heat recovery.

Algorithms:

Conversions

Energy Efficiency Ratio	= Seasonal Energy Efficiency Ratio x 0.85 (the factor 0.85 applies to all equipment but
kW/ton	= 12 / Energy Efficiency Ratio
Energy Efficiency Ratio	= 3.413 x Coefficient of Performance
For Advanced Evaporative Coolers	
Cooling Electrical Energy Savings (Customer kWh)	= Tons x EFLH x (12/SEER_Standard - kW_per_ton_Eff)
Cooling Electrical Demand Savings (Customer kW)	= Tons x (12/EER_Standard - kW_per_ton_Eff)
For Rooftop Units, Water Source Heat Pumps, Split Systems, Condensing Units	
Cooling Electrical Energy Savings (Customer kWh)	= Size x EFLH x (12/SEER_Standard - 12/SEER_Eff)
Cooling Electrical Demand Savings (Customer kW)	= Size x (12/EER_Standard - 12/EER_Eff)
For Chillers	
Cooling Electrical Energy Savings (Customer kWh)	= Size x EFLH x (IPLV_Standard - IPLV_Eff)
Cooling Electrical Demand Savings (Customer kW)	= Size x (FLV_Standard - FLV_Eff)
For Centrifugal Chillers	
FLV_standard	=FLV_ARI/(6.1507-0.30244*T_var+0.0062692*T_var^2-0.000045595*T_var^3)
IPLV_standard	=IPLV_ARI/(6.1507-0.30244*T_var+0.0062692*T_var^2-0.000045595*T_var^3)
Temperature Variable, T_var	=Chiller Lift + CWTD
For VFDs on Centrifugal Chillers	
Cooling Electrical Energy Savings (Customer kWh)	= Size x EFLH x (IPLV_Baseline - IPLV_VFD_Eff)
Cooling Electrical Demand Savings (Customer kW)	= Size x (FLV_Baseline - FLV_VFD_Eff)
For Plate and Frame Heat Exchangers	
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG
Slope	= $(Load_{onset} - 0) / (T_{onset} - T_{balance})$
Intercept	= -Slope x $T_{balance}$

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Cooling Load (OADB) [tons]	= Slope x (OADB) + Intercept Office customers will have a 1.25 factor applied to the load given to account for oversizing in the deemed EFLH Process and Data Centers will have a .8 factor applied to the given load
$Load_{design}$ [tons]	= Slope x (T_{design}) + Intercept
Top [ton-hours]	=Σ [Cooling Load (OADB) x hours(OADB)] for OADB: $T_{balance}$ -> T_{onset}
Bottom [ton-hours]	=Σ [Cooling Load (OADB) x hours(OADB)] for OADB: $T_{balance}$ -> T_{design}
EFLH [hours]	= $EFLH_{segment}$ x Top / Bottom (Process customers will have a 2/3 factor applied to account for 2 shifts of operation) See table 1
Cooling Electrical Energy Savings (Customer kWh)	= EFLH x $Load_{design}$ x ($IPLV_{Chiller}$ - Added Tower kW/ton)
Cooling Electrical Demand Savings (Customer kW)	= Cooling Electrical Energy Savings/8760
Average Energy Cost	= [kWh savings * ($/Annual kWh) + Max kW Savings * Equivalent Month of Demand Savings * ($/ Annual kW)] / kWh Savings

For All Products

Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

DLF	Demand Loss Factor = 6.5%, the percentage loss of electricity as it flows from the power plant to the customer during peak system demand.
NTG	Net-to-gross = 80%
Size	= The equipment capacity in tons, provided by customer
EFLH	= Equivalent Full Load Hours. The equivalent number of hours that the equipment would be running at full load over the course of the year. Values are shown in Table 2 for different building types and locations, to be provided by the customer.
kW_per_ton_Eff	= Efficiency in kilowatts per ton for the evaporative cooler; kW provided by the customer, tons to be as calculated as defined within this worksheet.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

SEER_Standard	= Seasonal Energy Efficiency Ratio in Btu/Wh of standard equipment, based upon the minimum acceptable efficiency defined by International Energy Conservation Code, 2009. Value determined from table 1 based on customer provided equipment type and size.
SEER_Eff	= Seasonal Energy Efficiency Ratio in Btu/Wh of High Efficiency equipment that the customer will install, provided by customer.
EER_Standard	= EER of standard equipment, based upon the minimum acceptable efficiency defined by the International Energy Conservation Code, 2009, for a specific type of equipment and size. Table 1.
EER_Eff	= EER of High Efficiency that the customer will install, provided by customer.
FLV_Standard	= Full load cooling efficiency in kW/ton of standard equipment, based upon the minimum acceptable efficiency defined by International Energy Conservation Code, 2009, Tables 503.2.3(8,9,10) for selected centrifugal chiller type, size, condensing and chilled water temperature, and condenser flow rate (provided by customer). Table 1, excerpt. NOTE: For non-centrifugal chillers, FLV_Standard is the value in IECC Table 503.2.3(7), without variation for condenser and chilled water temperatures and condenser water flow rate.
FLV_ARI (same as IPLV_ARI)	= IECC minimum acceptable FLV (or IPLV) at the ARI standard rated condition of 85□F condensing water temperature, 44□F chilled water temperature, and 3 gpm. The IECC has assigned the same values for FLV and IPLV for centrifugal chillers.
CWTD	=Condenser Water Temperature Difference, degrees F. equal to 28.08 divided by condenser water flow in gallons per minute, supplied by customer. Equation from the IECC 2009 code.
Chiller Lift	= The entering condensing water temperature minus the leaving chilled water
FLV_VFD_Baseline	= Full Load Value cooling efficiency in kW/ton, representing the efficiency of existing chiller with a VFD at 95% load, provided by customer.
FLV_VFD_Eff	= Full Load Value cooling efficiency in kW/ton, representing the efficiency of existing chiller without a VFD at 95% load, provided by customer.
IPLV_VFD_Baseline	= Integrated Part Load Value (representing the average efficiency over a range of loaded states) cooling efficiency in kW/ton of existing chiller without a VFD, provided by customer.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

IPLV_VFD_EFF	= Integrated Part Load Value (representing the average efficiency over a range of loaded states) cooling efficiency in kW/ton of existing chiller with VFD, provided by customer.
FLV_Eff	= Full Load Value cooling efficiency in kW/ton, representing the efficiency at design conditions, provided by customer.
IPLV_Standard	= Integrated Part Load Value (representing the average efficiency over a range of loaded states) cooling efficiency in kW/ton of standard equipment, based upon the minimum acceptable efficiency defined by International Energy Conservation Code, 2009 for chiller type and size (type and size provided by customer). Table 1
IPLV_Eff	= Integrated Part Load Value (representing the average efficiency over a range of loaded states) cooling efficiency in kW/ton of High Efficiency equipment, provided by customer.
CF	= Coincidence Factor, the probability that peak demand of the motor will coincide with peak utility system demand. 0.90 will be used for prescriptive rebates except VFD Chillers and Plate and Frame heat exchangers (Reference 1). For VFD Chillers we will use 0%. For Plate and Frame heat exchangers we will use 0% because this technology is used when temperatures are at or below 65 F.
Measure Life	Measure life is taken at 20 years for all prescriptive cooling equipment. (Reference 2). Custom measure lifetime derived from past projects.
TDLF	=Transmission-Distirubtion (Demand) Loss Factor = 6.50%, the percentage loss of electricity as it flows from the power plant to the customer during peak system demand. (The Transmission Distribution Loss Factor for Demand)
NTG	Net-to-gross = We will use 80% for cooling projects (Reference 6), with the exception of 87% for custom cooling projects.
Incremental operation and maintenance cost	= $100 per year per ton equivalent over the O&M cost of a DX system for Advanced Evaporative Cooling and $0 for all other cooling types in model - conservative approach, taking no credit for improved mean time between failure.
Baseline Cost of Equipment	The cost of equipment that would exactly meet code requirements.
Incremental Cost of Equipment	=The incremental cost of equipment above the code requirements, typically expressed on a dollar per ton basis.
For Evaporative Cooling	
Tons	= (CFM x ATF x Delta T_Evap)/12,000 BTUh/ton. 12,000 BTUh/ton is a standard conversion.
CFM	= Cubic Feet per Minute of airflow, provided by customer

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Delta T_Evap	= Difference in temperature between the air returning into the Evaporative Cooler from the space and the air supplied to the space by the evaporative cooler. We will assume an 8 deg F delta based on Colorado TMY3 data over a cooling season with a 75 degree return air temperature. (Reference 9)
ATF	Air Transfer Factor based on density of the air (resulting from changes in altitude). An ATF value of 0.89 is for Denver altitude and is used for all of Colorado.
For Plate and Frame Heat Exchangers	
T_{onset}	Mean Coincident Dry Bulb Temperature (as determined from binned TMY3 data for the location, shown in Table 3) corresponding to the Onset Wet Bulb Temperature provided by the customer
$T_{balance}$	Building Balance Point Temperature, the outside air dry bulb temperature at which there is no cooling load customer input for all segments except Industrial and Data Center (20°F default); Not used for Industrial and Data Centers since Load (OADB) = $Load_{onset}$
T_{design}	Design Temperature for cooling, taken to be 93°F
$EFLH_{segment}$	= Equivalent Full Load Hours. The equivalent number of hours that the equipment would be running at full load over the course of the year. Values are shown in Table 2 for different building types and locations, to be provided by the customer.
OADB	Outside Air Dry Bulb Temperature (°F)
hours(OADB)	Number of hours in for that OADB bin from TMY3 data for the location
Added Tower kW/ton	Average additional power use of the Cooling Tower due to the installation of the heat exchanger (tower fans will need to run more to bring down the water temperature to meet the cooling load directly as opposed to providing condenser water for the chiller) assumed to be **0.01** kW/ton (Ref 2)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Provided by Customer:	**Verified during M&V:**
Cooling equipment type	Yes
Climate zone	Yes
Building type	Yes
Cooling equipment size (tons or CFM)	Yes
Cooling equipment efficiency (SEER, EER, or FLV, IPLV in kW/ton, kW - dependent	Yes
For Centrifugal Chillers (in addition to above):	
Condenser water entering temperature	Yes
Chilled water leaving temperature	Yes
Condenser water flow in gpm	Yes
For VFDs on Centrifugal Chillers	
Chiller IPLV [kW/ton]	
Onset Wet-bulb Temperature for the Heat Exchanger [°F]	
Heat Exchanger tonnage [tons]	
Building balance point temperature [°F] $T_{balance}$	
Cooling load at onset wet-bulb temp [tons] $Load_{onset}$	
Market segment	
Provided by Customer For Plate & Frame Heat Exchangers (in addition to above):	
Chiller IPLV [kW/ton]	
Onset Wet-bulb Temperature for the Heat Exchanger [°F]	
Heat Exchanger tonnage [tons]	
Building balance point temperature [°F] $T_{balance}$	
Cooling load at onset wet-bulb temp [tons] $Load_{onset}$	
Market segment	

Assumptions:

- Each piece of cooling equipment is going in instead of a machine of the same size that only met minimum International Energy Conservation
- Prescriptive rebates are not given for backup cooling equipment.
-Small units assumed to have electric strip heat in the units. See note c in IECC table 503.2.3(1)
- Condensing unit SEER comes from IECC Table 503.2.3(6), units >11.2 tons. Most condensing units are larger than 11.3 tons. IECC assumes the
- To convert equipment from a Seasonal Energy Efficiency Ratio (SEER) to an Energy Efficiency Ratio (EER), multiply SEER by 0.85. The
- For Advanced EC qualifying equipment must be new and be a permanently installed indirect, hybrid or two-stage evaporative cooling unit. Portable
- Qualifying evaporative cooling units must have a minimum Media Saturation Effectiveness of 85% and above. The units must be installed with a

Assumptions (heat exchangers):

- No airside economizers are in operation
- Projects will not have peak kW savings as wet bulb temp will be too high in most cases and chiller will need to be on
- Heat exchanger is installed in parallel with the chiller and additional cooling towers are not required

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 1. Deemed Baseline Efficiencies

EQUIPMENT MINIMUM BASELINE EFFICIENCIES REQUIRED BY CODE, AND INCREMENTAL COSTS ASSOCIATED WITH EXPECTED

Equipment	Equipment Classification	SEER	EER	FLV (kW/ton)	IPLV (kW/ton)	Incremental Cost, $
Rooftop Units less than 5.4 tons	Standard Efficiency	**13.0**	11.1			
	High Efficiency					600
Rooftop Units 5.5-11.3 tons	Standard Efficiency	12.9	**11.0**			
	High Efficiency					2,500
Rooftop Units11.4-19.9 tons	Standard Efficiency	12.7	**10.8**			
	High Efficiency					3,750
Rooftop Units 20-63.3 tons	Standard Efficiency	11.5	**9.8**			
	High Efficiency					7,500
Rooftop Units greater than 63.3 tons	Standard Efficiency	**9.2**	**9.5**			
	High Efficiency					31,250
Split Systems less than 5.4 tons	Standard Efficiency	13.0	11.0			
	High Efficiency					600
Condensing Units > 5.4 tons	Standard Efficiency	12.9	**11.0**			
	High Efficiency					2,500
Water-source Heat Pumps	Standard Efficiency	16.8	**14.3**			
	High Efficiency					750
PTAC	Standard Efficiency	10.7	**9.1**			
	High Efficiency					188
scroll/screw chiller < 150 tons	Standard Efficiency			**0.775**	**0.615**	
	High Efficiency					12,500

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

scroll/screw chiller 150 to 300 tons	Standard Efficiency			**0.680**	**0.580**	
	High Efficiency					16,000
Centrifugal Chillers < 150 tons (Note: FLV Value in IECC	ARI rated Efficiency			**0.634**	**0.596**	
	High Efficiency					12,500
Centrifugal Chillers >= 150 and < 300 tons	ARI rated Efficiency			0.634	0.596	
	High Efficiency					20,000
Centrifugal Chillers 300 tons or larger	ARI rated Efficiency			**0.570**	**0.539**	
	High Efficiency					90,000
Air-Cooled Chillers - avg. capacity 250 tons	Standard Efficiency	**12.750**	**9.562**			
	High Efficiency					8,608
Advanced Evaporative Cooling (Indirect or Hybrid) - replacing DX Roof Top Unit < 5.4 tons	Standard Efficiency	13.0	11.1			
	High Efficiency					15,513
Advanced Evaporative Cooling (Indirect or Hybrid) - - replacing DX Roof Top Unit 5.5 to 11.5 tons	Standard Efficiency	12.9	11.0			
	High Efficiency					25,730
Advanced Evaporative Cooling (Indirect or Hybrid) - replacing DX Roof Top Unit 11.6 to 19.9 tons	Standard Efficiency	12.7	10.8			
	High Efficiency					27,178
Advanced Evaporative Cooling (Indirect or Hybrid) - replacing DX Roof Top Unit 20 to 63.3 tons	Standard Efficiency	11.5	9.8			
	High Efficiency					49,356
VFD's for Chillers	Existing Chiller Efficiency			Customer	Customer	
	Existing Chiller with VFD Efficiency			Customer Provided	Customer Provided	$71.88/ton

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

NOTES

* bold values indicates direct sourcing to IECC 2009, tables 503.2.3(x), otherwise estimated by multiplying SEER by 0.85 to get EER, or dividing
* High Efficiency SEER and EER values are supplied by Customer.
* ARI rated efficiency is converted to Standard efficiency as per Tables 503.2.3(8, 9, or 10)
* Values for Centrifugal Chillers assumed to be at ARI rating conditions of 85 degrees condensing temperature, 44 degrees chilled water
* Values for PTAC from IECC 2009 formula, Table 503.2.3(3) for Cooling Mode, Replacments
* Values for Screw/Scroll chillers - IECC 2006 added <75 tons. It is assumed most chillers in the progam do not fit this size. Product remains at <150 tons. (2012-2013 filing)
* Values for centrifigual chillers > 300 used more conservative (smaller) number of 300 to < 600 and >= 600 tons (2012-2013 filing)

Table 2. Equivalent Full Load Hours by Building Type - Market segment hours scaled from Minnesota OES data (Reference 8) with Office value calculated for Denver and Grand Junction Typical Meteorological Year data. Distributions developed from CBECS data (Reference 4)

Building Type	Front Range EFLH	Western Slope EFLH
Education - Community College	725	844
Education - Secondary School	456	531
Education - University	981	1,142
Health/Medical - Clinic	833	969
Health/Medical - Hospital	1,616	1,880
Lodging	1,356	1,578
Office	1,102	1,283
Retail	975	1,135

EFLH*- Zone 1 (Front Range/Denver) and Zone 2 (Western State as represented by Grand Junction)

Changes from 2011

No changes

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

References

1. NYSERDA (New York State Energy Research and Development Authority); NY Energy $mart Programs Deemed Savings Database - Source for coincidence factor

2. ASHRAE, 2007, Applications Handbook, Ch. 36, table 4, Comparison of Service Life Estimates

3. Arkansas Deemed Savings Quick Start Program Draft Report Commercial Measures Final Report - source of equivalent full load hour methodology for segments

4. CBECS (Commercial Buildings Energy Consumption Survey), 2003 - Total Floor space of Cooled Buildings by Principal Building Activity - source of market segment distributions

5. Derived by Eugene Scales and Associates

6. NTG factor from PA Consulting Group, '*Xcel Energy Process and Impact Evaluation for the Colorado Business Cooling Efficiency Program, FINAL REPORT, January 15, 2010'*. NTG for custom cooling is historical and not changed.

7. Dan Dettmers, University of WI, Madison,HVAC&R Center

8. 2007 ASHRAE Applications, pg 51: Definition of Effectiveness

9. Evap cooler average delta T is calculated by taking 80% of the average delta between dry bulb and wet bulb temperature for May through September 6:00 am to 6:00 pm DIA TMY3 hours. This average value is 14.8 which is then reduced to 8 to lower the overall capacity of the evap cooling unit to account for the tendency for evap coolers to be sized smaller than comparable refrigerated conditioning units.

10. Data from historic Xcel Energy Custom Efficiency cooling tower projects

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Data Center Efficiency

This is a custom product. Customers may apply for rebates under the Data Center Efficiency product for projects not listed under prescriptive rebate products. Each Data Center efficiency project will be analyzed individually by Xcel Energy. Technical variables required for the analysis will be obtained from the customer or vendor. Analysis will be based on standard engineering methodologies.

Calculations:

Electrical energy savings and electrical demand savings will be calculated based on the project-specific details. Each project will undergo an engineering review in accordance with standard engineering practices. Where prescriptive elements exist, the review will be in accordance with the calculation methodologies detailed in the prescriptive products.

A net-to-gross factor of 100% will be used for Data Center projects that follow the study path. A net-to-gross factor of 87% will be used for custom measures implemented in data centers to be consistent with the Custom product.

A transmission distribution loss factor of 6.50% will be used for Data Center projects.

Operation and Maintenance Savings will be calculated for each specific project based on project details.

Changes from 2011

Custom measures installed in data centers will be credited to the Data Center Efficiency product

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: EMS Efficiency

This is a custom product including both gas and electric measures. Customer may apply for rebate under the EMS product. Each EMS project will be analyzed individually by Xcel Energy. Technical variables required for the analysis will be obtained from the customer or vendor. Analysis will be based on good engineering practices and standards.

Calculations:

Electrical and gas energy savings and electrical demand savings will be calculated based on the project-specific details. Each project will undergo an engineering review in accordance with standard engineering practices. Where prescriptive elements exist, the review will be in accordance with the calculation methodologies detailed in the prescriptive products.

Assumptions:

A net-to-gross factor of 87% will be used for electric measures and a net-to-gross factor of 93% will ne used for gas EMS projects, reference National Energy Efficiency Best Practices Report (http://www.eebestpractices.com). Gas measures will assume one half of the free rider factor of electric because gas measures are new to Colorado.

A transmission distribution loss factor of **6.50**% will be used for EMS projects.

Operation and Maintenance Savings will be calculated for each specific project based on project details.

Life of product is 15 years.

Changes from 2011

No changes.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Heating Efficiency

Prescriptive rebates will be offered for Hot Water Boilers (Condensing and non-condensing), Commercial Water Heaters and various heating system improvements.

Algorithms:

BTUH_upgraded	= Input BTUH for the upgraded boiler or water heater to generate the same output as existing boiler or water heater that is being retrofitted = BTUH_existing x EFFb/EFFh
BTUH_base	= Input BTUH for the baseline boiler or water heater to generate the same output as the new high efficient boiler or water heater = BTUH_new x EFFh/EFFb
New Boiler Savings (Dth)	= (BTUH_base - BTUH_new) x Hrs / 1,000,000
Furnace Savings (Gross Dth)	= Alt x ((BTUH_new x EFFh/EFFb) - BTUH_new) x Hrs / 1,000,000
Boiler Tune Up savings (Gross Dth)	= ((BTUH x EFFh/EFFb) - BTUH) x Hrs / 1,000,000
Outdoor Air Reset savings (Gross Dth)	= (BTUH - (BTUH x EFFb/EFFh)) x Hrs / 1,000,000
Stack Dampers savings (Gross Dth)	= (BTUH - (BTUH x EFFb/EFFh)) x Hrs / 1,000,000
Modulating Burner Controls savings (Gross Dth)	= (BTUH - (BTUH x EFFb/EFFh)) x Hrs / 1,000,000
O2 Trim Control savings (Gross Dth)	= (BTUH - (BTUH x EFFb/EFFh)) x Hrs / 1,000,000
Steam Traps savings (Gross Dth)	= Leak_Rate x Leak_Hours x BTU_per_Pound / EFFb/1,000,000
New Water Heater Savings (Dth)	= ((BTUH_base - BTUH_new) x Hrs / 1,000,000) + ((SL_base - SL_new) X SL_Hrs / 1,000,000)
Pipe Insulation Savings (Dth)	= LF x Hrs x (BTU_per_foot_U - BTU_per_foot_I) x Existing / EFFb
DeltaT	= (Tfluid - Tambient)
BTU_per_Foot	= [Coef0 + (Coef1 x DeltaT) + (Coef2 x DeltaT^2) + (Coef3 x DeltaT^3)] / EFFb The U or I designation after the name indicates Uninsulated or Insulated.
Custom Boiler savings (Dth)	Gas energy savings and any associated savings or increase in electrical energy will be calculated based on the project specific details. Each project will undergo an engineering review in accordance with standard engineering practices. The review will be in accordance with the calculation methodologies detailed in the prescriptive products where applicable.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Variables:

BTUH_new	= Rated boiler or water heater Input BTUH nameplate data for the new boiler or water heater.
BTUH_existing	= Rated boiler or water heater Input BTUH nameplate data for the existing boiler or water heater that is being replaced or retrofitted with OA Reset dampers, Modulating Burner Controls, Tabulators or O2 Trim Controls.
Hrs	= 659 hrs/yr for space heating only boilers = 2,190 hrs/yr for domestic hot water only boilers = 1,443 hrs/yr for space heating & domestic hot water boilers Pipe insulation hours are given in Table 2. = 1,092 hrs/yr for commercial water heaters = 950 hrs/yr for commercial furnaces
SL_Hrs	= Standby loss hours for commercial water heaters = 8,760 hrs/yr
EFFb	= Efficiency of Baseline equipment. Refer Table 1 below
EFFh	= Efficiency for higher efficiency equipment. Refer Table 1 below.
SL_base	= Standby Losses for baseline storage water heater = 1,200 BTUH (Reference 4)
SL_new	= Standby Losses for efficient water heater = 1,200 BTUH for storage models and 0 BTUH for tankless models (Reference 4)
Leak_Hours	= Annual hours boiler lines are pressurized = 6000 hours
Leak_Rate	=Leakage rate, pounds of steam per hour. High Pressure = 11, Low Pressure = 5 (Reference 5)
BTU_Per_Pound	Low Pressure Applications: = 1164 BTU per pound for lost to atmosphere, 964 BTU per pound lost to condensate. Assume 50/50 mix = 1064 BTU per pound. (Reference 5) High Pressure Applications: = 1181 BTU per pound for lost to atmosphere, 981 BTU per pound lost to condensate. Assume 50/50 mix = 1081 BTU per pound. (Reference 5)
LF	= Linear feet of insulation installed, provided by the customer.
Coef	= Heat loss polynomial equation coefficient. The number represents the power to which DeltaT is raised. Values for insulation/pipe combinations allowed in the product are listed in Table 7. Coefficients will be selected based on the pipe diameter, R (or k) value and insulation thickness provided by the customer.
k	= Thermal conductivity, btu-in/hr-ft^2-F
R-Value	= Thermal Resistance, (1/k)*thickness(inches)
T_{fluid}	= Average temperature of the fluid in the pipe receiving insulation in degrees F, provided by the customer.
$T_{ambient}$	= Average temperature of the space surrounding the pipe. We will ask the customer if the pipe is in a conditioned space or outside. We will use 70 degrees for conditioned spaces and 51 degrees for outside domestic hot water (full year average) and 44 degrees for outside space heating (average excluding June-September) which are the average TMY3 temperatures for Colorado.
Existing	= Pipe insulation savings multiplier to determine credit if existing deteriorated insulation is being replaced. We will use 1 if no existing insulation is present and 0.25 if existing insulation is being replaced.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

1,000,000	= Conversion from BTU to Dth
Measure Life	= Length of time the boiler equipment will be operational = See table 8.
Incremental Cost	= Refer to Tables 3 to 6
NTG	Net-to-gross = 97% for all measures except Pipe Insulation and Furnaces. The NTG will be 61% for Pipe Insulation and 77% for Furnaces. References 6, 7 and 8.

Needed from Customer/Vendor/Administrator for Calculations:

For boilers:

Boiler size rated at sea level (BTUH)

New boiler type (Non-Condensing or Condensing)

Boiler Use (Space heating and/or water heating)

Additional Information for Plan B boilers:

Efficiency of boiler being replaced

Current State of Colorado Inspection certificate indicating the age and active status of the boiler

For steam traps:

High or low pressure

Incremental cost

For all but boilers, steam traps, and pipe insulation:

Boiler size (BTUH)

Implemented measure

Incremental cost

For Insulation:

Linear feet of insulation added

Nominal diameter of pipe

Thickness of insulation

Insulation R-Value or thermal conductivity (k)

Average fluid temperature

Pipe location (conditioned space or not)

Pipe use (Space heating and/or water heating)

Was existing insulation replaced

For Water Heaters:

Water heater type (Non-condensing or Condensing)

Water heater storage capacity (Gallons) i.e. 0 if tankless

Water Heater size rated at sea level (BTUH)

Incremental cost

For Furnaces:

New furnace size (BTUH)

New furnace efficiency

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Assumptions:

- Each boiler is replaced with the same size on a 1 for 1 basis.
- Only boilers used for space and/or domestic water heating can receive prescriptive rebates; other boilers must go through Custom Efficiency.
- Climate zone assumed to be Denver for all boilers and water heaters
- Thermal Efficiency as defined in ASHRAE 90.1-2007 indicates the total efficiency of the boiler equal to 100% fuel energy minus all losses.
-The full load efficiency of condensing boiler is assumed to be 92%. For savings calculations, part load efficiency of 96.2% was used.
-The full load efficiency of the baseline Plan B boiler is assumed to be 78%. For savings calculations, the actual nameplate efficiency provided by the customer will be
- Standby losses are from the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) database based on a 100 gallon tank.
- Standby losses are equal for the baseline and efficient storage type water heaters and cancel out.
- Each furnace is replaced with the same size on a 1 for 1 basis.
- Prescriptive rebates are only given for furnaces put into service, rebates are not given for backup furnaces.
- Service life of typical furnace is 20 years (per FEMP), 15 years used in the calculations. Reference 10
- Furnaces must have a minimum efficiency of 92% AFUE for a rebate, and 94% AFUE or higher efficiency will receive a larger rebate.
- The baseline efficiency for the furnace is based on 2006 IECC, minimum of 78%.
- Efficiency of all furnaces is Annual Fuel Utilization Efficiency ("AFUE")
- For 175,000 Btu/h hot water boilers: 100% of capacity used for space heating. For 500,000-4,000,000 Btu/h boilers: 50% of capacity used for space heating, 50% of capacity used for hot water.

*Condensing boiler efficiencies at part loads were taken from AERCO International Inc Thermal Efficiency curve for condensing boilers.

- Prescriptive rebates are only given for boilers put into service, rebates are not given for backup boilers. Even though we do not rebate backup boilers, our assumed hours have been conservatively reduced to 65% of the predicted hours to account for boiler redundancy.
- Steam boiler has condensate return.
- Assumed savings for boiler tune-up = 2% for non condensing boiler. This is an average value of the two years, 4% initial to no savings at the end of the two years. Life of product is 2 years. DOE states up to 5%.
- Assumed savings for outdoor air reset on non condensing boilers = 3%. Life of product is 20 years. The Natural Gas consortium states up to 5% savings
- Assumed savings for installing Stack dampers on non condensing boilers = 1%. Life of product is 20 years. Canada energy council, up to 4%
- Assumed savings for modulating burner controls on non condensing boilers = 3%. Life of product is 20 years. The Natural Gas consortium states up to 4% savings
- Assumed savings for O2 trim controls on non condensing boilers = 2%. Life of product is 20 years. The Natural Gas consortium states of 2 to 4% savings
- For boilers: Though the BTU input and output are affected by altitude, the efficiency stays the same, so the elevation effect is not considered.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 1: Heating Equipment Efficiencies		
	Baseline Efficiency (EFFb)	**Efficient Efficiency (EFFh)**
New Boilers (Non-Condensing)	80.00%	85.00%
New Boilers (Condensing)	80.00%	96.20%
Replacement Boilers (Condensing)	78.00%	96.20%
Boiler Tune Up	78.00%	80.00%
Outdoor Air Reset	80.00%	83.00%
Stack Dampers	80.00%	81.00%
Modulating Burner Controls	80.00%	83.00%
O2 Trim Control	80.00%	82.00%
Steam Traps	80.00%	N/A
Commercial Furnaces	78.00%	92.00%
Water Heaters	80.00%	96.00%
Pipe Insulation	80.00%	N/A

Table 2: Hours for Pipe Insulation

Use of Pipe	Location	Pipe Insulation Hours	Explanation
Domestic Hot Water	Inside	5,584	Hours when outside temp is above building balance point. Heat loss from pipe is wasted
Domestic Hot Water	Outside	8,760	Domestic hot water available year round, outside temp is always less than 120 F.
Space Heating	Inside	2,622	Hours when boiler is running but outdoor temp is above building balance point
Space Heating	Outside	6,000	Hours that boiler is running

Table 3: Hot water boiler costs, Vendor supplied, Engineered Products						
	Non-condensing		Condensing	Incremental	Incremental	Incremental
Boiler Nameplate Capacity	Baseline	High Efficient - Non Condensing	High Efficient Condensing	Baseline to High Efficient - Non Condensing	Baseline to High Efficient - Condensing	Plan B Replacement High Efficient - Condensing
175,000 Btuh	$3,000	$3,500	$4,600	$500	$1,600	$6,613
500,000 Btuh	$5,000	$9,000	$11,200	$4,000	$6,200	$16,951
1,000,000 Btuh	$7,300	$11,700	$15,000	$4,400	$7,700	$26,502
2,000,000 Btuh	$12,000	$17,000	$26,500	$5,000	$14,500	$49,504
4,000,000 Btuh	$24,000	$34,000	$53,000	$10,000	$29,000	$99,008
6,000,000 Btuh	$36,000	$51,000	$79,500	$15,000	$43,500	$148,512
8,000,000 Btuh	$48,000	$68,000	$106,000	$20,000	$58,000	$198,016

Table 4: Commercial Water Heater Costs, Vendor supplied			
Water Heater Nameplate Capacity	Baseline	High Efficient	Incremental
Commercial Water Heater - Condensing; 125 MBTUH	$3,105	$4,006	$901
Commercial Water Heater - Condensing; 160 MBTUH	$3,512	$4,530	$1,018
Commercial Water Heater - Condensing; 199 MBTUH	$3,450	$4,450	$1,000
Commercial Water Heater - Condensing; 300 MBTUH	$5,959	$7,687	$1,728
Commercial Tankless Water Heater - Condensing; 150 MBTUH	$4,284	$5,526	$1,242
Commercial Tankless Water Heater - Condensing; 199.9 MBTUH	$3,450	$4,450	$1,000

Table 5: Other Heating System Improvements	
Boiler Tune Up	Actual costs will be provided by customer
Outdoor Air Reset	Actual costs will be provided by customer
Stack Dampers > 750 Mbtuh	Actual costs will be provided by customer
Stack Dampers > 750 Mbtuh	Actual costs will be provided by customer
Modulating Burner Controls < 750 Mbtuh	Actual costs will be provided by customer
Modulating Burner Controls > 750 Mbtuh	Actual costs will be provided by customer
O2 Trim Control	Actual costs will be provided by customer
Steam Traps	Actual costs will be provided by customer
Pipe Insulation	Actual costs will be provided by customer

Table 6: Commercial Furnaces (Reference 3)	
Btu Input	Incremental Cost
60,000	$804.95
70,000	$782.26
80,000	$775.83
90,000	$785.68
100,000	$811.80
115,000	$893.02
120,000	$912.86
125,000	$948.29
140,000	$1,079.00

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 7: Pipe Insulation polynomial equation coefficients and incremental cost

Pipe Nominal Diameter (inches)	Insulation Thickness (Inches)	Polynomial Coefficients, Uninsulated				Polynomial Coefficients, Insulated			
		Coef0	Coef1	Coef2	Coef3	Coef0	Coef1	Coef2	Coef3
0.50	1.0	-3.0374E+00	4.5690E-01	8.6645E-04	4.0333E-07	-1.4187E-01	9.4515E-02	9.5675E-05	2.0500E-07
0.50	1.5	-3.0374E+00	4.5690E-01	8.6645E-04	4.0333E-07	-9.3332E-02	7.8916E-02	7.4175E-05	1.7167E-07
0.75	1.0	-3.6084E+00	5.5068E-01	1.0738E-03	4.9833E-07	-1.8348E-01	1.1210E-01	1.1840E-04	2.4000E-07
0.75	1.5	-3.6084E+00	5.5068E-01	1.0738E-03	4.9833E-07	-1.1155E-01	9.0618E-02	8.7550E-05	1.9667E-07
1.00	1.0	-4.4355E+00	6.6986E-01	1.3218E-03	6.3167E-07	-1.9200E-01	1.1754E-01	1.2070E-04	2.5333E-07
1.00	1.5	-4.4355E+00	6.6986E-01	1.3218E-03	6.3167E-07	-1.1202E-01	9.8294E-02	9.6075E-05	2.1167E-07
1.25	1.0	-5.7434E+00	8.3004E-01	1.5980E-03	8.8500E-07	-2.9272E-01	1.4849E-01	1.5975E-04	3.1667E-07
1.25	1.5	-5.7434E+00	8.3004E-01	1.5980E-03	8.8500E-07	-1.3118E-01	1.0982E-01	1.0618E-04	2.3833E-07
1.50	1.0	-6.3813E+00	9.3332E-01	1.8326E-03	9.9000E-07	-2.7700E-01	1.5147E-01	1.5938E-04	3.2500E-07
1.50	1.5	-6.3813E+00	9.3332E-01	1.8326E-03	9.9000E-07	-1.6005E-01	1.2339E-01	1.2200E-04	2.6667E-07
2.00	1.0	-7.7082E+00	1.1384E+00	2.2752E-03	1.2350E-06	-3.3948E-01	1.7646E-01	1.8525E-04	3.8333E-07
2.00	1.5	-7.7082E+00	1.1384E+00	2.2752E-03	1.2350E-06	-2.0389E-01	1.4083E-01	1.3790E-04	3.0667E-07
2.50	1.5	-9.3690E+00	1.3590E+00	2.6993E-03	1.5500E-06	-1.7869E-01	1.4528E-01	1.4075E-04	3.1667E-07
2.50	2.0	-9.3690E+00	1.3590E+00	2.6993E-03	1.5500E-06	-1.3498E-01	1.2739E-01	1.1985E-04	2.7667E-07
3.00	1.5	-1.1275E+01	1.6288E+00	3.2514E-03	1.9067E-06	-2.6414E-01	1.8400E-01	1.8783E-04	3.9500E-07
3.00	2.0	-1.1275E+01	1.6288E+00	3.2514E-03	1.9067E-06	-1.7765E-01	1.5601E-01	1.5245E-04	3.3667E-07
4.00	1.5	-1.4044E+01	2.0490E+00	4.1818E-03	2.3833E-06	-3.3314E-01	2.2060E-01	2.2868E-04	4.7167E-07
4.00	2.0	-1.4044E+01	2.0490E+00	4.1818E-03	2.3833E-06	-2.3785E-01	1.8565E-01	1.8200E-04	4.0000E-07
5.00	1.5	-1.6652E+01	2.4856E+00	5.2152E-03	2.8167E-06	-4.5046E-01	2.6745E-01	2.7580E-04	5.8000E-07
5.00	2.0	-1.6652E+01	2.4856E+00	5.2152E-03	2.8167E-06	-2.9805E-01	2.2138E-01	2.1908E-04	4.7833E-07
6.00	1.5	-2.0439E+01	2.9514E+00	6.0177E-03	3.6500E-06	-6.1558E-01	3.1278E-01	3.1310E-04	6.9333E-07
6.00	2.0	-2.0439E+01	2.9514E+00	6.0177E-03	3.6500E-06	-3.4456E-01	2.4953E-01	2.4818E-04	5.3833E-07
8.00	1.5	-2.6767E+01	3.8025E+00	7.6705E-03	4.9667E-06	-6.9016E-01	3.7481E-01	3.9035E-04	8.1000E-07
8.00	2.0	-2.6767E+01	3.8025E+00	7.6705E-03	4.9667E-06	-1.4066E+00	3.3454E-01	9.9850E-05	1.1100E-06
10.00	1.5	-3.1882E+01	4.6589E+00	9.7102E-03	5.8167E-06	-8.7637E-01	4.4116E-01	4.4313E-04	9.7500E-07
10.00	2.0	-3.1882E+01	4.6589E+00	9.7102E-03	5.8167E-06	-5.2419E-01	3.5989E-01	3.6058E-04	7.7833E-07
12.00	1.5	-3.8751E+01	5.5187E+00	1.1240E-02	7.3333E-06	-1.0195E+00	5.1188E-01	5.2188E-04	1.1250E-06
12.00	2.0	-3.8751E+01	5.5187E+00	1.1240E-02	7.3333E-06	-5.6113E-01	4.1443E-01	4.3003E-04	8.8167E-07

Note:
The updated coefficients were developed using the NAIMA 3E Plus 4.0 Software.
The following assumptions were used:

Base metal - Steel
Insulation - 650F min.Fiber Pipe and Tank, Type II, C1393-00a
Jacket Material – 0.13 Stainless Steel, new, cleaned
Ambient Temperature -45F
Wind Speed - 0mph
Max Surface Temp - 140F
System Application - Pipe Horizontal
System Units - ASTM C585

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 8: Measure Lives		
Measure	**Product Life (yrs)**	**Source of Information**
Hot Water Boilers (Non-condensing)		
Hot Water Boiler - Non-condensing 175 MBTUH	20	Federal Energy Management Program
Hot Water Boiler - Non-condensing 500 MBTUH	20	Federal Energy Management Program
Hot Water Boiler - Non-condensing 1MMBTUH	20	Federal Energy Management Program
Hot Water Boiler - Non-condensing 2 MMBTUH	20	Federal Energy Management Program
Hot Water Boiler - Non-condensing 4 MMBTUH	20	Federal Energy Management Program
Hot Water Boiler - Non-condensing 6 MMBTUH	20	Federal Energy Management Program
Hot Water Boiler - Non-condensing 8, MMBTUH	20	Federal Energy Management Program
Hot Water Boilers (Condensing)		
Hot Water Boiler - Condensing 175 MBTUH	20	Federal Energy Management Program
Hot Water Boiler - Condensing 500 MBTUH	20	Federal Energy Management Program
Hot Water Boiler - Condensing 1 MMBTUH	20	Federal Energy Management Program
Hot Water Boiler - Condensing 2 MMBTUH	20	Federal Energy Management Program
Hot Water Boiler - Condensing 4 MMBTUH	20	Federal Energy Management Program
Hot Water Boiler - Condensing 6 MMBTUH	20	Federal Energy Management Program
Hot Water Boiler - Condensing 8 MMBTUH	20	Federal Energy Management Program
Commercial Furnaces	15	Federal Energy Management Program
Commercial Water Heaters		
Commercial Hot Water Heater - Condensing; 125 MBTUH	15	Federal Energy Management Program
Commercial Hot Water Heater - Condensing; 160 MBTUH	15	Federal Energy Management Program
Commercial Hot Water Heater - Condensing; 199 MBTUH	15	Federal Energy Management Program
Commercial Hot Water Heater - Condensing; 300 MBTUH	15	Federal Energy Management Program
Commercial Tankless Hot Water Heater - Non-condensing; 150 MBTUH	15	Federal Energy Management Program
Commercial Tankless Hot Water Heater - Non-condensing; 199 MBTUH	15	Federal Energy Management Program
Commercial Tankless Hot Water Heater - Non-condensing; 399 MBTUH	15	Federal Energy Management Program
Commercial Tankless Hot Water Heater - Non-condensing; 500 MBTUH	15	Federal Energy Management Program
Steam Traps		
Gas Boiler - Steam Traps - Low Pressure - average of 10 and 15 PSI	10	Internet
Gas Boiler - Steam Traps - High Pressure - average of 50 PSI and 65 PSI	4	Internet
Boiler Tune Ups	2	Federal Energy Management Program
Pipe Insulation		
Insulation - Hot Water System	7	Federal Energy Management Program
Insulation - Steam System	7	Federal Energy Management Program

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

References:

1. The baseline efficiency for new boilers is based on 2006 IECC, ASHRAE 90.1, and Federal Rule10 CFR Part 431 [Docket No. EERE–2008–BT–STD–0013] RIN 1904–AB83 "Energy Conservation Program for Certain Industrial Equipment: Energy Conservation Standards and Test Procedures for Commercial Heating, Air-Conditioning, and Water-Heating Equipment"

2. The baseline efficiency for replacement hot water boilers is based on the baseline efficiency used in the DOE document "TECHNICAL SUPPORT DOCUMENT: ENERGY EFFICIENCY PROGRAM FOR COMMERCIAL AND INDUSTRIAL EQUIPMENT: EFFICIENCY STANDARDS FOR COMMERCIAL HEATING, AIRCONDITIONING, AND WATERHEATING EQUIPMENT" dated July 9, 2008
3. The baseline efficiency for baseline furnace (AFUE), as defined in the 2006 IECC. It is 78%.
4. Water heater efficiencies and standby losses are from the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) database.
5. Leakage data from Energy Management Handbook, by Wayne Turner
6. Net-to-Gross factor for Boiler Efficiency was calculated using 1/2 of the free-rider factor for Cooling Efficiency.
7. Net-to-Gross factor for Pipe Insulation is assumed to be 61% based on the average of the NTG for SCG and PG&E in the 2006-2008 Evaluation Report for the Southern California Industrial and Agricultural Contract Group
8. Net-to-Gross factor from Summit Blue 2006 Midwest Residential market Assessments DSM Potential Study
9. The average baseline and high efficiency costs are based on the California DEER database.
10. Measure life from the Federal Energy Management Program (FEMP).

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Lighting Efficiency

Prescriptive rebates will be offered for replacement lighting equipment. New Construction rebates will be offered for new facilities or spaces overhauled for a new purpose.
Custom rebates are available for lighting-related improvements that are not prescriptive.

Algorithms:

Electrical Demand Savings (Customer kW)	= (kW_Base - kW_EE) x HVAC_cooling_kWsavings_factor
Electrical Energy Savings (Customer kWh/yr)	= (kW_Base - kW_EE) x Hrs x HVAC_cooling_kWhsavings_factor
Natural Gas Savings (Dth)	= (kW_Base - kW_EE) x Hrs x HVAC_heating_penalty_factor
Lighting Controls -Electrical Energy Savings (Customer kWh/yr)	=(kW connected) x (1-PAF) x Hrs x HVAC_cooling_kWhsavings_factor
Lighting Controls -Electrical Demand Savings (Customer kW)	=(kW connected) x (1-PAF) x HVAC_cooling_kWsavings_factor
Lighting Controls -Natural Gas Savings (Dth)	=(kW connected) x (1-PAF) x Hrs x HVAC_heating_penalty_factor
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

Hrs	= Annual Operating Hours. Hours to be obtained from Table 2. The type of facility is to be supplied by the customer.
kW_Base	= Baseline fixture wattage (kW per fixture) determined from stipulated fixture wattages from Standard Fixture information. Fixture type provided by customer. Table 4-5
kW_EE	= High Efficiency fixture wattage (kW per fixture) determined from stipulated fixture wattages from Standard Fixture information. Fixture type provided by customer. Table 4-5
HVAC_cooling_kWhsavings_factor	= Cooling system energy savings factor resulting from efficient lighting from Table 1. Reduction in lighting energy results in a reduction in cooling energy, if the customer has air conditioning. Existence of air conditioning to be provided by customer.
HVAC_cooling_kWsavings_factor	= Cooling system demand savings factor resulting from efficient lighting from Table 1. Reduction in lighting demand results in a reduction in cooling demand, if the customer has air conditioning. Existence of air conditioning to be provided by customer.
HVAC_heating_kWsavings_factor	= Heating system penalty factor resulting from efficient lighting. Reduction in lighting demand results in an increase in heating usage, if the customer has gas heating. A value of -0.00088738 Dth/kWh given by (Reference 4).

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

CF	= Coincidence Factor, the probability that peak demand of the lights will coincide with peak utility system demand. CF will be determined based on customer provided building type in table 2.
Measure Life	= Length of time the lighting equipment will be operational, see Table 3 for Measure Lifetimes
Baseline Cost	= Cost of the baseline technology. For Retrofit, the cost is $0.00 since the baseline is to continue to operate the existing system. For New Construction, the cost is that of the lower efficiency option. Costs by (Reference **4**) and vendors.
High Efficiency Cost	= Cost of the High Efficiency technology. Costs given in tables 4-6 (Reference 4**,** 8) and vendors**.**
kW connected	Total connected fixture load, determined as the sum of stipulated fixture wattages from Deemed Fixture Table 6.
PAF	Stipulated power adjustment factor based on control type from Table 6.
TDLF	Transmission Distribution Loss Factor = **6.50**%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing SRD-2
NTG	Net-to-gross = 84% for prescriptive measures (Reference 5) and 96% for Custom Efficiency Lighting and Lighting Redesign based on the additional influence.
Incremental operation and maintenance cost	= Other annual savings or costs associated with the electrical savings. For Lighting, this consists of additional natural gas for heating. Methodology given by Reference 2.

Provided by Customer:	**Verified during M&V:**
Number of Fixtures	Yes
Lighting equipment type	Yes
Building type	Yes
Existence of air conditioning	Yes

Assumptions:

- Each replacement lighting fixture is going in on a one-for-one basis for existing fixtures. New construction fixtures are put in on a one-for-one basis instead of lower efficiency options.

- In the Technical Assumptions, one will note that the Operating Hours does not appear, but rather a modified version. The methodology defines kW Savings on the basis of difference in kW with the HVAC Cooling demand factor. The Annual Energy Savings takes into account any heating that has to be added.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 1: HVAC Interactive Factors (Reference 2)

HVAC system	HVAC_cooling_kWhsavings_factor	HVAC_cooling_kWsavings_factor	Heating Penalty	kW/Ton	COP
Heating only	1.00	1.00	Methodology given by Reference 2	-	-
Heating and cooling	1.11	1.33	Methodology given by Reference 2	-	-
Cooler Door Retrofit to LED Secondary Benefits Factor	1.41	1.41	0.000000	1.41	$ 2.49
Freezer Door Retrofit to LED Secondary Benefits Factor	1.59	1.59	0.000000	2.09	$ 1.68

Table 2: Coincident Peak Demand Factors and Annual Operating Hours by Building Type (Reference 1 and 3)

Building Type	CF	Annual Operating Hours
24-Hour Facility	94%	8234
College	71%	5010
Cooler Door Retrofit to LED	94%	Matches Segment
Elemen./Second. School	73%	2080
Freezer Door Retrofit to LED	94%	Matches Segment
Grocery (All) / Big Box Retail (larger than 50,000 SF)	94%	5478
Health	84%	3392
Hospital	84%	4532
Hotel/Motel	51%	2697
Manufacturing	96%	5913
Night Time Exterior (LED Canopy/Soffit Lights Only)	0%	4380
Office	78%	3435
Other/Misc.	96%	2278
Restaurant	94%	4156
Retail	94%	3068
Safety or Code Required (Including Exit Signs)	100%	8760
Traffic Signals	50%	4380
Warehouse	96%	2388

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 3: Measure Lifetimes in Years (Reference 4,6,7)

Measure	Lifetime in Years
LED Interior Lamps	12
LED Interior Fixtures	20
Low Wattage T8 Lamps	8
Ballasted CFLs	18
Integrated 25W Ceramic Metal Halide	7
T8 Lighting Systems	18
T5 Lighting Systems	18
Lighting Controls	18

Changes from 2011

Revised Exterior Lighting Hours to 4380 at 0% CF for all Occupancies or Market Segments
Revised Lighting Hours for Cooler & Freezer Doors to match Building Occupancy
Revised Secondary Cooling Benefits for LED case lighting in coolers & freezers to correct previous understimate using Rundquist Method
Normal and High Ballast Choices added for Fluorescent retrofits where appropriate
Canopy Lighting is all energy savings and no coincident kW due to off peak hours of use. Has become 7.5% of custom volume.

References

1. Arkansas Deemed Savings Quick Start Program Draft Report Commercial Measures Final Report, Nexant. CF and hours
2. HVAC Interactive Factors developed based on the Rundquist Simplified HVAC Interaction Factor method for Minnesota, presented on page 28 of the 11/93 issue of the ASHRAE Journal - "Calculating lighting and HVAC interactions".
3. Technical Reference User Manual No. 2004-31, Efficiency Vermont, 12/31/04. CF and Hours
4. Deemed Savings Database, Minnesota Office of Energy Security, 2008. CF, Hours, kW, Costs, Measure life
5. Net-to-Gross factor from 2008 Xcel Energy Lighting Efficiency Program Evaluation
6. LED Lamp measure life based on average 2009 custom project LED life of 45,000 hours / weighted hours of operation average
7. LED Fixture measure life based on Xcel Energy Minnesota Lighting Efficiency Program average replacement fixture lifetime
8. LED Fixture costs based on Xcel Energy Custom Lighting Efficiency project costs

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(1) F28T5 lamp with --1.0 ballast factor electronic ballast	0.0320	(1) T12 40W Lamp with Electronic Ballast	0.0380	$46.50
(1) F28T5 lamp with --1.0 ballast factor electronic ballast	0.0320	(1) T12 40W Lamp with Magnetic Ballast	0.0406	$46.50
(1) F28T5 lamp with --1.0 ballast factor electronic ballast	0.0320	(1) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0420	$46.50
(1) F28T5 lamp with --1.0 ballast factor electronic ballast	0.0320	Incandescent, (1) 150W lamp	0.1500	$46.50
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0380	(2) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0720	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0380	(2) T12 40W Lamp with Electronic Ballast	0.0710	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0380	(2) T12 40W Lamp with Magnetic Ballast	0.0865	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0380	(2) F40T12 48" 34W lamps, electronic ballast	0.0600	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(2) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0720	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(2) T12 40W Lamp with Electronic Ballast	0.0710	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(2) T12 40W Lamp with Magnetic Ballast	0.0865	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(2) F40T12 48" 34W lamps, electronic ballast	0.0600	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0280	(2) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0720	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0280	(2) T12 40W Lamp with Electronic Ballast	0.0710	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0280	(2) T12 40W Lamp with Magnetic Ballast	0.0865	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0280	(2) F40T12 48" 34W lamps, electronic ballast	0.0600	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(1) F40T12 48" 34W lamps, electronic ballast	0.0310	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(1) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0420	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(1) T12 40W Lamp with Electronic Ballast	0.0380	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(1) T12 40W Lamp with Magnetic Ballast	0.0406	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	Incandescent, 1-A 150W, no ballast	0.1500	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250	(2) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0480	$41.45
(1) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.0620	(2) T12 40W Lamp with Electronic Ballast	0.0710	$27.00
(1) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.0620	(2) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0720	$27.00
(1) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.0620	(2) T12 40W Lamp with Electronic Ballast	0.0710	$27.00
(1) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.0620	(2) T12 40W Lamp with Magnetic Ballast	0.0865	$27.00
(1) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.0620	Incandescent, 1-A 150W, no ballast	0.1500	$27.00
(10) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.5850	Metal Halide, (1) 1000W lamp	1.0800	$407.31
(10) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.5850	Mercury Vapor, 1000W lamp	1.0800	$407.31
(10) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.5850	High Pressure Sodium, 1000W lamp	1.1000	$407.31
(10) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.5850	Pulse Start Metal Halide, (1) 1000W lamp	1.0800	$407.31
(12) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts,, high bay	0.3360	Metal Halide, (1) 750W lamp	0.8500	$398.00
(12) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts,, high bay	0.3360	High Pressure Sodium, 750W lamp	0.8400	$398.00
(12) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts,, high bay	0.3360	Pulse Start Metal Halide, 750W lamp	0.8120	$398.00
(16) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4480	Metal Halide, (1) 750W lamp	0.8500	$530.00
(16) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4480	High Pressure Sodium, 750W lamp	0.8400	$530.00
(16) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4480	Pulse Start Metal Halide, 750W lamp	0.8120	$530.00
(18) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.6800	Metal Halide, (1) 1000W lamp	1.0800	$534.00
(18) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.6800	Mercury Vapor, 1000W lamp	1.0800	$534.00
(18) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.6800	High Pressure Sodium, 1000W lamp	1.1000	$534.00
(18) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.6800	Pulse Start Metal Halide, (1) 1000W lamp	1.0800	$534.00
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0310	(1) F40T12 48" 34W lamps, electronic ballast	0.0310	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0310	(1) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0420	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0310	(1) T12 40W Lamp with Electronic Ballast	0.0380	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0310	(1) T12 40W Lamp with Magnetic Ballast	0.0406	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0310	Incandescent, 1-A 150W, no ballast	0.1500	$41.45
(2) F28T5 lamps with --1.0 ballast factor electronic ballast	0.0630	(2) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0720	$49.00
(2) F28T5 lamps with --1.0 ballast factor electronic ballast	0.0630	(2) T12 40W Lamp with Electronic Ballast	0.0710	$49.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(2) F28T5 lamps with --1.0 ballast factor electronic ballast	0.0630	(2) T12 40W Lamp with Magnetic Ballast	0.0865	$49.00
(2) F28T5 lamps with --1.0 ballast factor electronic ballast	0.0630	Incandescent, 1-A 150W, no ballast	0.1500	$49.00
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(3) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1060	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(3) F40T12 48" 34W lamps, electronic ballast	0.0910	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(3) T12 40W Lamp with Electronic Ballast	0.1070	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(3) T12 40W Lamp with Magnetic Ballast	0.1410	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(4) F40T12 48" 34W lamps, electronic ballast	0.1190	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(4) T12 40W Lamp with Electronic Ballast	0.1340	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(4) T12 40W Lamp with Magnetic Ballast	0.1720	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0740	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(1) T12 8 foot 110W Lamp with Electronic ballast	0.1190	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1206	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0840	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(1) T12 8 foot 75W Lamp with magnetic ballast	0.0941	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0740	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.1200	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(3) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1060	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(3) F40T12 48" 34W lamps, electronic ballast	0.0910	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(3) T12 40W Lamp with Electronic Ballast	0.1070	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(3) T12 40W Lamp with Magnetic Ballast	0.1410	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(4) F40T12 48" 34W lamps, electronic ballast	0.1190	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(4) T12 40W Lamp with Electronic Ballast	0.1340	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(4) T12 40W Lamp with Magnetic Ballast	0.1720	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) F96T12ES 8' 60W lamp, electronic ballast	0.0670	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0740	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 110W Lamp with Electronic ballast	0.1190	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1206	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0840	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 75W Lamp with magnetic ballast	0.0941	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.1200	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(3) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1060	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(3) F40T12 48" 34W lamps, electronic ballast	0.0910	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(3) T12 40W Lamp with Electronic Ballast	0.1070	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(3) T12 40W Lamp with Magnetic Ballast	0.1410	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(4) F40T12 48" 34W lamps, electronic ballast	0.1190	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(4) T12 40W Lamp with Electronic Ballast	0.1340	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(4) T12 40W Lamp with Magnetic Ballast	0.1720	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(1) F96T12ES 8' 60W lamp, electronic ballast	0.0670	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0740	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(1) T12 8 foot 110W Lamp with Electronic ballast	0.1190	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1206	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0840	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(1) T12 8 foot 75W Lamp with magnetic ballast	0.0941	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0550	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.1200	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) F96T12ES 8' 60W lamp, electronic ballast	0.0670	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0740	$43.45

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 110W Lamp with Electronic ballast	0.1190	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1206	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0840	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 75W Lamp with magnetic ballast	0.0941	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.1200	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(2) F40T12 48" 34W lamps, electronic ballast	0.0600	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(2) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0670	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(2) T12 40W Lamp with Electronic Ballast	0.0710	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(2) T12 40W Lamp with Magnetic Ballast	0.0865	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	Incandescent, 1-A 150W, no ballast	0.1500	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(3) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballast	0.0830	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0480	(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	$43.45
(2) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast, high bay	0.0736	Metal Halide, (1) 150W lamp	0.1900	$160.00
(2) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast, high bay	0.0736	Metal Halide, (1) 175W lamp	0.2150	$160.00
(2) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast, high bay	0.0736	Mercury Vapor, (1) 175W lamp	0.2050	$160.00
(2) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast, high bay	0.0736	High Pressure Sodium, (1) 150W lamp	0.1880	$160.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.1170	(3) T12 40W Lamp with Magnetic Ballast	0.1410	$32.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.1170	(4) F40T12 48" 34W lamps, electronic ballast	0.1190	$32.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.1170	(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440	$32.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.1170	(4) T12 40W Lamp with Electronic Ballast	0.1340	$32.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.1170	(4) T12 40W Lamp with Magnetic Ballast	0.1720	$32.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.1170	(1) T12 8 foot 110W Lamp with Electronic ballast	0.1190	$32.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.1170	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1206	$32.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.1170	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.1200	$32.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1170	Metal Halide, (1) 150W lamp	0.1900	$239.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1170	Metal Halide, (1) 175W lamp	0.2150	$239.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1170	Mercury Vapor, (1) 175W lamp	0.2050	$239.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1170	High Pressure Sodium, (1) 150W lamp	0.1880	$239.00
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1170	Metal Halide, (1) 250W lamp	0.2950	$192.88
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1170	Mercury Vapor, 250W lamp	0.2850	$192.88
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1170	High Pressure Sodium, 250W lamp	0.2950	$192.88
(2) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1170	Pulse Start Metal Halide, 250W lamp	0.2720	$192.88
(20) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.7550	Metal Halide, (1) 1000W lamp	1.0800	$538.00
(20) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.7550	Mercury Vapor, 1000W lamp	1.0800	$538.00
(20) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.7550	High Pressure Sodium, 1000W lamp	1.1000	$538.00
(20) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.7550	Pulse Start Metal Halide, (1) 1000W lamp	1.0800	$538.00
(3) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0720	(3) F40T12 48" 34W lamps, electronic ballast	0.0910	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0720	(3) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1040	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0720	(3) T12 40W Lamp with Electronic Ballast	0.1070	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0720	(3) T12 40W Lamp with Magnetic Ballast	0.1410	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0720	(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast	0.1100	(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast	0.1100	(4) F40T12 48" 34W lamps, electronic ballast	0.1190	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast	0.1100	(4) T12 40W Lamp with Electronic Ballast	0.1340	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast	0.1100	(4) T12 40W Lamp with Magnetic Ballast	0.1720	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast, high bay	0.0930	Metal Halide, (1) 150W lamp	0.1900	$192.88
(3) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast, high bay	0.0930	Metal Halide, (1) 175W lamp	0.2150	$192.88
(3) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast, high bay	0.0930	Mercury Vapor, (1) 175W lamp	0.2050	$192.88

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(3) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast, high bay	0.0930	High Pressure Sodium, (1) 150W lamp	0.1880	$192.88
(3) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0710	(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0710	(4) F40T12 48" 34W lamps, electronic ballast	0.1190	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0710	(4) T12 40W Lamp with Electronic Ballast	0.1340	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0710	(4) T12 40W Lamp with Magnetic Ballast	0.1720	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballast	0.0821	(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballast	0.0821	(4) F40T12 48" 34W lamps, electronic ballast	0.1190	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballast	0.0821	(4) T12 40W Lamp with Electronic Ballast	0.1340	$53.45
(3) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballast	0.0821	(4) T12 40W Lamp with Magnetic Ballast	0.1720	$53.45
(3) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1790	Metal Halide, (1) 150W lamp	0.1900	$261.00
(3) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1790	Metal Halide, (1) 175W lamp	0.2150	$261.00
(3) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1790	Mercury Vapor, (1) 175W lamp	0.2050	$261.00
(3) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1790	High Pressure Sodium, (1) 150W lamp	0.1880	$261.00
(3) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1790	Metal Halide, (1) 250W lamp	0.2950	$222.00
(3) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1790	Mercury Vapor, 250W lamp	0.2850	$222.00
(3) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1790	High Pressure Sodium, 250W lamp	0.2950	$222.00
(3) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.1790	Pulse Start Metal Halide, 250W lamp	0.2720	$222.00
(3) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.2790	Metal Halide, (1) 400W lamp	0.4580	$163.00
(3) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.2790	Mercury Vapor, 400W lamp	0.4540	$163.00
(3) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.2790	High Pressure Sodium, 310W lamp	0.3650	$163.00
(3) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.2790	High Pressure Sodium, 400W lamp	0.4570	$163.00
(3) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.2790	Pulse Start Metal Halide, 320W lamp	0.3420	$163.00
(3) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.2790	Pulse Start Metal Halide, 350W lamp	0.3750	$163.00
(4) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast	0.1410	(4) F96T12ES 8' 60W lamps, energy savings magnetic ballast	0.2460	$86.52
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(2) F96T12ES 8' 60W lamps, electronic ballast	0.1050	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(2) F96T12ES 8' 60W lamps, energy savings magnetic ballast	0.1130	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(2) T12 8 foot 110W Lamp with Electronic ballast	0.2050	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(2) T12 8 foot 110W Lamp with ES Magnetic ballast	0.2376	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(2) T12 8 foot 75W Lamp with Electronic ballast	0.1330	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(2) T12 8 foot 75W Lamp with magnetic ballast	0.1450	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(2) T12 8 foot 95W Lamp with Electronic ballast	0.1700	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(2) T12 8 foot 95W Lamp with Magnetic ballast	0.2028	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(4) F40T12 48" 34W lamps, electronic ballast	0.1190	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(4) T12 40W Lamp with Electronic Ballast	0.1340	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0960	(4) T12 40W Lamp with Magnetic Ballast	0.1720	$56.45
(4) F32T8 48" 32W Lamps with a high efficiency, very high ballast factor electronic ballasts, high bay	0.1540	Metal Halide, (1) 250W lamp	0.2950	$153.00
(4) F32T8 48" 32W Lamps with a high efficiency, very high ballast factor electronic ballasts, high bay	0.1540	Mercury Vapor, 250W lamp	0.2850	$153.00
(4) F32T8 48" 32W Lamps with a high efficiency, very high ballast factor electronic ballasts, high bay	0.1540	High Pressure Sodium, 250W lamp	0.2950	$153.00
(4) F32T8 48" 32W Lamps with a high efficiency, very high ballast factor electronic ballasts, high bay	0.1540	Pulse Start Metal Halide, 250W lamp	0.2720	$153.00
(4) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.2340	Metal Halide, (1) 400W lamp	0.4580	$293.00
(4) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.2340	Mercury Vapor, 400W lamp	0.4540	$293.00
(4) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.2340	High Pressure Sodium, 310W lamp	0.3650	$293.00
(4) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.2340	High Pressure Sodium, 400W lamp	0.4570	$293.00
(4) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.2340	Pulse Start Metal Halide, 320W lamp	0.3420	$293.00
(4) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.2340	Pulse Start Metal Halide, 350W lamp	0.3750	$293.00
(6) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.1860	Metal Halide, (1) 400W lamp	0.4580	$260.00
(6) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.1860	Mercury Vapor, 400W lamp	0.4540	$260.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(6) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.1860	High Pressure Sodium, 310W lamp	0.3650	$260.00
(6) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.1860	High Pressure Sodium, 400W lamp	0.4570	$260.00
(6) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.1860	Pulse Start Metal Halide, 320W lamp	0.3420	$260.00
(6) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.1860	Pulse Start Metal Halide, 350W lamp	0.3750	$260.00
(6) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.3580	Metal Halide, (1) 400W lamp	0.4580	$293.00
(6) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.3580	Mercury Vapor, 400W lamp	0.4540	$293.00
(6) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.3580	High Pressure Sodium, 310W lamp	0.3650	$293.00
(6) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.3580	High Pressure Sodium, 400W lamp	0.4570	$293.00
(6) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.3580	Pulse Start Metal Halide, 350W lamp	0.3750	$293.00
(6) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.5550	Metal Halide, (1) 750W lamp	0.8500	$242.00
(6) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.5550	High Pressure Sodium, 750W lamp	0.8400	$242.00
(6) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.5550	Pulse Start Metal Halide, 750W lamp	0.8120	$242.00
(8) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2240	Metal Halide, (1) 400W lamp	0.4580	$265.00
(8) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2240	Mercury Vapor, 400W lamp	0.4540	$265.00
(8) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2240	High Pressure Sodium, 310W lamp	0.3650	$265.00
(8) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2240	High Pressure Sodium, 400W lamp	0.4570	$265.00
(8) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2240	Pulse Start Metal Halide, 320W lamp	0.3420	$265.00
(8) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2240	Pulse Start Metal Halide, 350W lamp	0.3750	$265.00
(8) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.4680	Metal Halide, (1) 750W lamp	0.8500	$372.31
(8) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.4680	High Pressure Sodium, 750W lamp	0.8400	$372.31
(8) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.4680	Pulse Start Metal Halide, 750W lamp	0.8120	$372.31
(8) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.7930	Metal Halide, (1) 1000W lamp	1.0800	$334.00
(8) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.7930	Mercury Vapor, 1000W lamp	1.0800	$334.00
(8) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.7930	High Pressure Sodium, 1000W lamp	1.1000	$334.00
(8) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.7930	Pulse Start Metal Halide, (1) 1000W lamp	1.0800	$334.00
0.25W LEC Exit Sign	0.0003	30W Incandescent Exit Sign	0.0300	$80.00
0.25W LEC Exit Sign	0.0003	40W Incandescent Exit Sign	0.0400	$80.00
1 Watt Pin Based CFL Electronic Ballast	0.0011	3 Watts Incandescent Lamp	0.0030	$38.18
1 Watt Pin Based CFL Electronic Ballast	0.0011	4 Watts Incandescent Lamp	0.0040	$38.18
1 Watt Pin Based CFL Electronic Ballast	0.0011	5 Watts Incandescent Lamp	0.0050	$38.18
1 Watt Pin Based CFL Magnetic Ballast	0.0013	3 Watts Incandescent Lamp	0.0030	$38.18
1 Watt Pin Based CFL Magnetic Ballast	0.0013	4 Watts Incandescent Lamp	0.0040	$38.18
1 Watt Pin Based CFL Magnetic Ballast	0.0013	5 Watts Incandescent Lamp	0.0050	$38.18
1 Watt Screw In CFL Integral Ballast	0.0010	3 Watts Incandescent Lamp	0.0030	$3.00
1 Watt Screw In CFL Integral Ballast	0.0010	4 Watts Incandescent Lamp	0.0040	$3.00
1 Watt Screw In CFL Integral Ballast	0.0010	5 Watts Incandescent Lamp	0.0050	$3.00
2 Watt Pin Based CFL Electronic Ballast	0.0021	5 Watts Incandescent Lamp	0.0050	$38.18
2 Watt Pin Based CFL Electronic Ballast	0.0021	10 Watts Incandescent Lamp	0.0100	$38.18
2 Watt Pin Based CFL Electronic Ballast	0.0021	15 Watts Incandescent Lamp	0.0150	$38.18
2 Watt Pin Based CFL Magnetic Ballast	0.0026	5 Watts Incandescent Lamp	0.0050	$38.18
2 Watt Pin Based CFL Magnetic Ballast	0.0026	10 Watts Incandescent Lamp	0.0100	$38.18
2 Watt Pin Based CFL Magnetic Ballast	0.0026	15 Watts Incandescent Lamp	0.0150	$38.18
2 Watt Screw In CFL Integral Ballast	0.0020	5 Watts Incandescent Lamp	0.0050	$3.00
2 Watt Screw In CFL Integral Ballast	0.0020	10 Watts Incandescent Lamp	0.0100	$3.00
2 Watt Screw In CFL Integral Ballast	0.0020	15 Watts Incandescent Lamp	0.0150	$3.00
3 Watt Pin Based CFL Electronic Ballast	0.0032	10 Watts Incandescent Lamp	0.0100	$38.18
3 Watt Pin Based CFL Electronic Ballast	0.0032	15 Watts Incandescent Lamp	0.0150	$38.18
3 Watt Pin Based CFL Magnetic Ballast	0.0039	10 Watts Incandescent Lamp	0.0100	$38.18

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
3 Watt Pin Based CFL Magnetic Ballast	0.0039	15 Watts Incandescent Lamp	0.0150	$38.18
3 Watt Screw In CFL Integral Ballast	0.0030	10 Watts Incandescent Lamp	0.0100	$3.00
3 Watt Screw In CFL Integral Ballast	0.0030	15 Watts Incandescent Lamp	0.0150	$3.00
4 Watt Pin Based CFL Electronic Ballast	0.0042	10 Watts Incandescent Lamp	0.0100	$38.18
4 Watt Pin Based CFL Electronic Ballast	0.0042	15 Watts Incandescent Lamp	0.0150	$38.18
4 Watt Pin Based CFL Electronic Ballast	0.0042	20 Watts Incandescent Lamp	0.0200	$38.18
4 Watt Pin Based CFL Magnetic Ballast	0.0052	10 Watts Incandescent Lamp	0.0100	$38.18
4 Watt Pin Based CFL Magnetic Ballast	0.0052	15 Watts Incandescent Lamp	0.0150	$38.18
4 Watt Pin Based CFL Magnetic Ballast	0.0052	20 Watts Incandescent Lamp	0.0200	$38.18
4 Watt Screw In CFL Integral Ballast	0.0040	10 Watts Incandescent Lamp	0.0100	$3.00
4 Watt Screw In CFL Integral Ballast	0.0040	15 Watts Incandescent Lamp	0.0150	$3.00
4 Watt Screw In CFL Integral Ballast	0.0040	20 Watts Incandescent Lamp	0.0200	$3.00
5 Watt Pin Based CFL Electronic Ballast	0.0053	15 Watts Incandescent Lamp	0.0150	$38.18
5 Watt Pin Based CFL Electronic Ballast	0.0053	20 Watts Incandescent Lamp	0.0200	$38.18
5 Watt Pin Based CFL Electronic Ballast	0.0053	25 Watts Incandescent Lamp	0.0250	$38.18
5 Watt Pin Based CFL Magnetic Ballast	0.0065	15 Watts Incandescent Lamp	0.0150	$38.18
5 Watt Pin Based CFL Magnetic Ballast	0.0065	20 Watts Incandescent Lamp	0.0200	$38.18
5 Watt Pin Based CFL Magnetic Ballast	0.0065	25 Watts Incandescent Lamp	0.0250	$38.18
5 Watt Screw In CFL Integral Ballast	0.0050	15 Watts Incandescent Lamp	0.0150	$3.00
5 Watt Screw In CFL Integral Ballast	0.0050	20 Watts Incandescent Lamp	0.0200	$3.00
5 Watt Screw In CFL Integral Ballast	0.0050	25 Watts Incandescent Lamp	0.0250	$3.00
6 Watt Pin Based CFL Electronic Ballast	0.0063	15 Watts Incandescent Lamp	0.0150	$38.18
6 Watt Pin Based CFL Electronic Ballast	0.0063	20 Watts Incandescent Lamp	0.0200	$38.18
6 Watt Pin Based CFL Electronic Ballast	0.0063	25 Watts Incandescent Lamp	0.0250	$38.18
6 Watt Pin Based CFL Electronic Ballast	0.0063	30 Watts Incandescent Lamp	0.0300	$38.18
6 Watt Pin Based CFL Magnetic Ballast	0.0078	15 Watts Incandescent Lamp	0.0150	$38.18
6 Watt Pin Based CFL Magnetic Ballast	0.0078	20 Watts Incandescent Lamp	0.0200	$38.18
6 Watt Pin Based CFL Magnetic Ballast	0.0078	25 Watts Incandescent Lamp	0.0250	$38.18
6 Watt Pin Based CFL Magnetic Ballast	0.0078	30 Watts Incandescent Lamp	0.0300	$38.18
6 Watt Screw In CFL Integral Ballast	0.0060	15 Watts Incandescent Lamp	0.0150	$3.00
6 Watt Screw In CFL Integral Ballast	0.0060	20 Watts Incandescent Lamp	0.0200	$3.00
6 Watt Screw In CFL Integral Ballast	0.0060	25 Watts Incandescent Lamp	0.0250	$3.00
6 Watt Screw In CFL Integral Ballast	0.0060	30 Watts Incandescent Lamp	0.0300	$3.00
7 Watt Pin Based CFL Electronic Ballast	0.0074	20 Watts Incandescent Lamp	0.0200	$38.18
7 Watt Pin Based CFL Electronic Ballast	0.0074	25 Watts Incandescent Lamp	0.0250	$38.18
7 Watt Pin Based CFL Electronic Ballast	0.0074	30 Watts Incandescent Lamp	0.0300	$38.18
7 Watt Pin Based CFL Electronic Ballast	0.0074	35 Watts Incandescent Lamp	0.0350	$38.18
7 Watt Pin Based CFL Magnetic Ballast	0.0091	20 Watts Incandescent Lamp	0.0200	$38.18
7 Watt Pin Based CFL Magnetic Ballast	0.0091	25 Watts Incandescent Lamp	0.0250	$38.18
7 Watt Pin Based CFL Magnetic Ballast	0.0091	30 Watts Incandescent Lamp	0.0300	$38.18
7 Watt Pin Based CFL Magnetic Ballast	0.0091	35 Watts Incandescent Lamp	0.0350	$38.18
7 Watt Screw In CFL Integral Ballast	0.0070	20 Watts Incandescent Lamp	0.0200	$3.00
7 Watt Screw In CFL Integral Ballast	0.0070	25 Watts Incandescent Lamp	0.0250	$3.00
7 Watt Screw In CFL Integral Ballast	0.0070	30 Watts Incandescent Lamp	0.0300	$3.00
7 Watt Screw In CFL Integral Ballast	0.0070	35 Watts Incandescent Lamp	0.0350	$3.00
8 Watt Pin Based CFL Electronic Ballast	0.0085	20 Watts Incandescent Lamp	0.0200	$38.18
8 Watt Pin Based CFL Electronic Ballast	0.0085	25 Watts Incandescent Lamp	0.0250	$38.18
8 Watt Pin Based CFL Electronic Ballast	0.0085	30 Watts Incandescent Lamp	0.0300	$38.18

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
8 Watt Pin Based CFL Electronic Ballast	0.0085	35 Watts Incandescent Lamp	0.0350	$38.18
8 Watt Pin Based CFL Electronic Ballast	0.0085	40 Watts Incandescent Lamp	0.0400	$38.18
8 Watt Pin Based CFL Magnetic Ballast	0.0104	20 Watts Incandescent Lamp	0.0200	$38.18
8 Watt Pin Based CFL Magnetic Ballast	0.0104	25 Watts Incandescent Lamp	0.0250	$38.18
8 Watt Pin Based CFL Magnetic Ballast	0.0104	30 Watts Incandescent Lamp	0.0300	$38.18
8 Watt Pin Based CFL Magnetic Ballast	0.0104	35 Watts Incandescent Lamp	0.0350	$38.18
8 Watt Pin Based CFL Magnetic Ballast	0.0104	40 Watts Incandescent Lamp	0.0400	$38.18
8 Watt Screw In CFL Integral Ballast	0.0080	20 Watts Incandescent Lamp	0.0200	$3.00
8 Watt Screw In CFL Integral Ballast	0.0080	25 Watts Incandescent Lamp	0.0250	$3.00
8 Watt Screw In CFL Integral Ballast	0.0080	30 Watts Incandescent Lamp	0.0300	$3.00
8 Watt Screw In CFL Integral Ballast	0.0080	35 Watts Incandescent Lamp	0.0350	$3.00
8 Watt Screw In CFL Integral Ballast	0.0080	40 Watts Incandescent Lamp	0.0400	$3.00
9 Watt Pin Based CFL Electronic Ballast	0.0095	25 Watts Incandescent Lamp	0.0250	$38.18
9 Watt Pin Based CFL Electronic Ballast	0.0095	30 Watts Incandescent Lamp	0.0300	$38.18
9 Watt Pin Based CFL Electronic Ballast	0.0095	35 Watts Incandescent Lamp	0.0350	$38.18
9 Watt Pin Based CFL Electronic Ballast	0.0095	40 Watts Incandescent Lamp	0.0400	$38.18
9 Watt Pin Based CFL Electronic Ballast	0.0095	45 Watts Incandescent Lamp	0.0450	$38.18
9 Watt Pin Based CFL Magnetic Ballast	0.0118	25 Watts Incandescent Lamp	0.0250	$38.18
9 Watt Pin Based CFL Magnetic Ballast	0.0118	30 Watts Incandescent Lamp	0.0300	$38.18
9 Watt Pin Based CFL Magnetic Ballast	0.0118	35 Watts Incandescent Lamp	0.0350	$38.18
9 Watt Pin Based CFL Magnetic Ballast	0.0118	40 Watts Incandescent Lamp	0.0400	$38.18
9 Watt Pin Based CFL Magnetic Ballast	0.0118	45 Watts Incandescent Lamp	0.0450	$38.18
9 Watt Screw In CFL Integral Ballast	0.0090	25 Watts Incandescent Lamp	0.0250	$3.00
9 Watt Screw In CFL Integral Ballast	0.0090	30 Watts Incandescent Lamp	0.0300	$3.00
9 Watt Screw In CFL Integral Ballast	0.0090	35 Watts Incandescent Lamp	0.0350	$3.00
9 Watt Screw In CFL Integral Ballast	0.0090	40 Watts Incandescent Lamp	0.0400	$3.00
9 Watt Screw In CFL Integral Ballast	0.0090	45 Watts Incandescent Lamp	0.0450	$3.00
10 Watt Pin Based CFL Electronic Ballast	0.0106	30 Watts Incandescent Lamp	0.0300	$76.17
10 Watt Pin Based CFL Electronic Ballast	0.0106	35 Watts Incandescent Lamp	0.0350	$76.17
10 Watt Pin Based CFL Electronic Ballast	0.0106	40 Watts Incandescent Lamp	0.0400	$76.17
10 Watt Pin Based CFL Electronic Ballast	0.0106	45 Watts Incandescent Lamp	0.0450	$76.17
10 Watt Pin Based CFL Electronic Ballast	0.0106	50 Watts Incandescent Lamp	0.0500	$76.17
10 Watt Pin Based CFL Magnetic Ballast	0.0131	30 Watts Incandescent Lamp	0.0300	$76.17
10 Watt Pin Based CFL Magnetic Ballast	0.0131	35 Watts Incandescent Lamp	0.0350	$76.17
10 Watt Pin Based CFL Magnetic Ballast	0.0131	40 Watts Incandescent Lamp	0.0400	$76.17
10 Watt Pin Based CFL Magnetic Ballast	0.0131	45 Watts Incandescent Lamp	0.0450	$76.17
10 Watt Pin Based CFL Magnetic Ballast	0.0131	50 Watts Incandescent Lamp	0.0500	$76.17
10 Watt Screw In CFL Integral Ballast	0.0100	30 Watts Incandescent Lamp	0.0300	$3.00
10 Watt Screw In CFL Integral Ballast	0.0100	35 Watts Incandescent Lamp	0.0350	$3.00
10 Watt Screw In CFL Integral Ballast	0.0100	40 Watts Incandescent Lamp	0.0400	$3.00
10 Watt Screw In CFL Integral Ballast	0.0100	45 Watts Incandescent Lamp	0.0450	$3.00
10 Watt Screw In CFL Integral Ballast	0.0100	50 Watts Incandescent Lamp	0.0500	$3.00
11 Watt Pin Based CFL Electronic Ballast	0.0116	30 Watts Incandescent Lamp	0.0300	$76.17
11 Watt Pin Based CFL Electronic Ballast	0.0116	35 Watts Incandescent Lamp	0.0350	$76.17
11 Watt Pin Based CFL Electronic Ballast	0.0116	40 Watts Incandescent Lamp	0.0400	$76.17
11 Watt Pin Based CFL Electronic Ballast	0.0116	45 Watts Incandescent Lamp	0.0450	$76.17
11 Watt Pin Based CFL Electronic Ballast	0.0116	50 Watts Incandescent Lamp	0.0500	$76.17
11 Watt Pin Based CFL Electronic Ballast	0.0116	55 Watts Incandescent Lamp	0.0550	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
11 Watt Pin Based CFL Magnetic Ballast	0.0144	30 Watts Incandescent Lamp	0.0300	$76.17
11 Watt Pin Based CFL Magnetic Ballast	0.0144	35 Watts Incandescent Lamp	0.0350	$76.17
11 Watt Pin Based CFL Magnetic Ballast	0.0144	40 Watts Incandescent Lamp	0.0400	$76.17
11 Watt Pin Based CFL Magnetic Ballast	0.0144	45 Watts Incandescent Lamp	0.0450	$76.17
11 Watt Pin Based CFL Magnetic Ballast	0.0144	50 Watts Incandescent Lamp	0.0500	$76.17
11 Watt Pin Based CFL Magnetic Ballast	0.0144	55 Watts Incandescent Lamp	0.0550	$76.17
11 Watt Screw In CFL Integral Ballast	0.0110	30 Watts Incandescent Lamp	0.0300	$3.00
11 Watt Screw In CFL Integral Ballast	0.0110	35 Watts Incandescent Lamp	0.0350	$3.00
11 Watt Screw In CFL Integral Ballast	0.0110	40 Watts Incandescent Lamp	0.0400	$3.00
11 Watt Screw In CFL Integral Ballast	0.0110	45 Watts Incandescent Lamp	0.0450	$3.00
11 Watt Screw In CFL Integral Ballast	0.0110	50 Watts Incandescent Lamp	0.0500	$3.00
11 Watt Screw In CFL Integral Ballast	0.0110	55 Watts Incandescent Lamp	0.0550	$3.00
12 Watt Pin Based CFL Electronic Ballast	0.0127	35 Watts Incandescent Lamp	0.0350	$76.17
12 Watt Pin Based CFL Electronic Ballast	0.0127	40 Watts Incandescent Lamp	0.0400	$76.17
12 Watt Pin Based CFL Electronic Ballast	0.0127	45 Watts Incandescent Lamp	0.0450	$76.17
12 Watt Pin Based CFL Electronic Ballast	0.0127	50 Watts Incandescent Lamp	0.0500	$76.17
12 Watt Pin Based CFL Electronic Ballast	0.0127	55 Watts Incandescent Lamp	0.0550	$76.17
12 Watt Pin Based CFL Electronic Ballast	0.0127	60 Watts Incandescent Lamp	0.0600	$76.17
12 Watt Pin Based CFL Magnetic Ballast	0.0157	35 Watts Incandescent Lamp	0.0350	$76.17
12 Watt Pin Based CFL Magnetic Ballast	0.0157	40 Watts Incandescent Lamp	0.0400	$76.17
12 Watt Pin Based CFL Magnetic Ballast	0.0157	45 Watts Incandescent Lamp	0.0450	$76.17
12 Watt Pin Based CFL Magnetic Ballast	0.0157	50 Watts Incandescent Lamp	0.0500	$76.17
12 Watt Pin Based CFL Magnetic Ballast	0.0157	55 Watts Incandescent Lamp	0.0550	$76.17
12 Watt Pin Based CFL Magnetic Ballast	0.0157	60 Watts Incandescent Lamp	0.0600	$76.17
12 Watt Screw In CFL Integral Ballast	0.0120	35 Watts Incandescent Lamp	0.0350	$3.00
12 Watt Screw In CFL Integral Ballast	0.0120	40 Watts Incandescent Lamp	0.0400	$3.00
12 Watt Screw In CFL Integral Ballast	0.0120	45 Watts Incandescent Lamp	0.0450	$3.00
12 Watt Screw In CFL Integral Ballast	0.0120	50 Watts Incandescent Lamp	0.0500	$3.00
12 Watt Screw In CFL Integral Ballast	0.0120	55 Watts Incandescent Lamp	0.0550	$3.00
12 Watt Screw In CFL Integral Ballast	0.0120	60 Watts Incandescent Lamp	0.0600	$3.00
13 Watt Pin Based CFL Electronic Ballast	0.0138	35 Watts Incandescent Lamp	0.0350	$76.17
13 Watt Pin Based CFL Electronic Ballast	0.0138	40 Watts Incandescent Lamp	0.0400	$76.17
13 Watt Pin Based CFL Electronic Ballast	0.0138	45 Watts Incandescent Lamp	0.0450	$76.17
13 Watt Pin Based CFL Electronic Ballast	0.0138	50 Watts Incandescent Lamp	0.0500	$76.17
13 Watt Pin Based CFL Electronic Ballast	0.0138	55 Watts Incandescent Lamp	0.0550	$76.17
13 Watt Pin Based CFL Electronic Ballast	0.0138	60 Watts Incandescent Lamp	0.0600	$76.17
13 Watt Pin Based CFL Electronic Ballast	0.0138	65 Watts Incandescent Lamp	0.0650	$76.17
13 Watt Pin Based CFL Magnetic Ballast	0.0170	35 Watts Incandescent Lamp	0.0350	$76.17
13 Watt Pin Based CFL Magnetic Ballast	0.0170	40 Watts Incandescent Lamp	0.0400	$76.17
13 Watt Pin Based CFL Magnetic Ballast	0.0170	45 Watts Incandescent Lamp	0.0450	$76.17
13 Watt Pin Based CFL Magnetic Ballast	0.0170	50 Watts Incandescent Lamp	0.0500	$76.17
13 Watt Pin Based CFL Magnetic Ballast	0.0170	55 Watts Incandescent Lamp	0.0550	$76.17
13 Watt Pin Based CFL Magnetic Ballast	0.0170	60 Watts Incandescent Lamp	0.0600	$76.17
13 Watt Pin Based CFL Magnetic Ballast	0.0170	65 Watts Incandescent Lamp	0.0650	$76.17
13 Watt Screw In CFL Integral Ballast	0.0130	35 Watts Incandescent Lamp	0.0350	$3.00
13 Watt Screw In CFL Integral Ballast	0.0130	40 Watts Incandescent Lamp	0.0400	$3.00
13 Watt Screw In CFL Integral Ballast	0.0130	45 Watts Incandescent Lamp	0.0450	$3.00
13 Watt Screw In CFL Integral Ballast	0.0130	50 Watts Incandescent Lamp	0.0500	$3.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
13 Watt Screw In CFL Integral Ballast	0.0130	55 Watts Incandescent Lamp	0.0550	$3.00
13 Watt Screw In CFL Integral Ballast	0.0130	60 Watts Incandescent Lamp	0.0600	$3.00
13 Watt Screw In CFL Integral Ballast	0.0130	65 Watts Incandescent Lamp	0.0650	$3.00
14 Watt Pin Based CFL Electronic Ballast	0.0148	40 Watts Incandescent Lamp	0.0400	$76.17
14 Watt Pin Based CFL Electronic Ballast	0.0148	45 Watts Incandescent Lamp	0.0450	$76.17
14 Watt Pin Based CFL Electronic Ballast	0.0148	50 Watts Incandescent Lamp	0.0500	$76.17
14 Watt Pin Based CFL Electronic Ballast	0.0148	55 Watts Incandescent Lamp	0.0550	$76.17
14 Watt Pin Based CFL Electronic Ballast	0.0148	60 Watts Incandescent Lamp	0.0600	$76.17
14 Watt Pin Based CFL Electronic Ballast	0.0148	65 Watts Incandescent Lamp	0.0650	$76.17
14 Watt Pin Based CFL Electronic Ballast	0.0148	70 Watts Incandescent Lamp	0.0700	$76.17
14 Watt Pin Based CFL Magnetic Ballast	0.0183	40 Watts Incandescent Lamp	0.0400	$76.17
14 Watt Pin Based CFL Magnetic Ballast	0.0183	45 Watts Incandescent Lamp	0.0450	$76.17
14 Watt Pin Based CFL Magnetic Ballast	0.0183	50 Watts Incandescent Lamp	0.0500	$76.17
14 Watt Pin Based CFL Magnetic Ballast	0.0183	55 Watts Incandescent Lamp	0.0550	$76.17
14 Watt Pin Based CFL Magnetic Ballast	0.0183	60 Watts Incandescent Lamp	0.0600	$76.17
14 Watt Pin Based CFL Magnetic Ballast	0.0183	65 Watts Incandescent Lamp	0.0650	$76.17
14 Watt Pin Based CFL Magnetic Ballast	0.0183	70 Watts Incandescent Lamp	0.0700	$76.17
14 Watt Screw In CFL Integral Ballast	0.0140	40 Watts Incandescent Lamp	0.0400	$3.00
14 Watt Screw In CFL Integral Ballast	0.0140	45 Watts Incandescent Lamp	0.0450	$3.00
14 Watt Screw In CFL Integral Ballast	0.0140	50 Watts Incandescent Lamp	0.0500	$3.00
14 Watt Screw In CFL Integral Ballast	0.0140	55 Watts Incandescent Lamp	0.0550	$3.00
14 Watt Screw In CFL Integral Ballast	0.0140	60 Watts Incandescent Lamp	0.0600	$3.00
14 Watt Screw In CFL Integral Ballast	0.0140	65 Watts Incandescent Lamp	0.0650	$3.00
14 Watt Screw In CFL Integral Ballast	0.0140	70 Watts Incandescent Lamp	0.0700	$3.00
15 Watt Pin Based CFL Electronic Ballast	0.0159	45 Watts Incandescent Lamp	0.0450	$76.17
15 Watt Pin Based CFL Electronic Ballast	0.0159	50 Watts Incandescent Lamp	0.0500	$76.17
15 Watt Pin Based CFL Electronic Ballast	0.0159	55 Watts Incandescent Lamp	0.0550	$76.17
15 Watt Pin Based CFL Electronic Ballast	0.0159	60 Watts Incandescent Lamp	0.0600	$76.17
15 Watt Pin Based CFL Electronic Ballast	0.0159	65 Watts Incandescent Lamp	0.0650	$76.17
15 Watt Pin Based CFL Electronic Ballast	0.0159	70 Watts Incandescent Lamp	0.0700	$76.17
15 Watt Pin Based CFL Electronic Ballast	0.0159	75 Watts Incandescent Lamp	0.0750	$76.17
15 Watt Pin Based CFL Magnetic Ballast	0.0196	45 Watts Incandescent Lamp	0.0450	$76.17
15 Watt Pin Based CFL Magnetic Ballast	0.0196	50 Watts Incandescent Lamp	0.0500	$76.17
15 Watt Pin Based CFL Magnetic Ballast	0.0196	55 Watts Incandescent Lamp	0.0550	$76.17
15 Watt Pin Based CFL Magnetic Ballast	0.0196	60 Watts Incandescent Lamp	0.0600	$76.17
15 Watt Pin Based CFL Magnetic Ballast	0.0196	65 Watts Incandescent Lamp	0.0650	$76.17
15 Watt Pin Based CFL Magnetic Ballast	0.0196	70 Watts Incandescent Lamp	0.0700	$76.17
15 Watt Pin Based CFL Magnetic Ballast	0.0196	75 Watts Incandescent Lamp	0.0750	$76.17
15 Watt Screw In CFL Integral Ballast	0.0150	45 Watts Incandescent Lamp	0.0450	$3.00
15 Watt Screw In CFL Integral Ballast	0.0150	50 Watts Incandescent Lamp	0.0500	$3.00
15 Watt Screw In CFL Integral Ballast	0.0150	55 Watts Incandescent Lamp	0.0550	$3.00
15 Watt Screw In CFL Integral Ballast	0.0150	60 Watts Incandescent Lamp	0.0600	$3.00
15 Watt Screw In CFL Integral Ballast	0.0150	65 Watts Incandescent Lamp	0.0650	$3.00
15 Watt Screw In CFL Integral Ballast	0.0150	70 Watts Incandescent Lamp	0.0700	$3.00
15 Watt Screw In CFL Integral Ballast	0.0150	75 Watts Incandescent Lamp	0.0750	$3.00
150W Pulse Start Metal Halide, energy saving magnetic ballast	0.1670	Mercury Vapor, (1) 175W lamp	0.2050	$161.00
150W Pulse Start Metal Halide, energy saving magnetic ballast	0.1670	Incandescent, 1-PS40 500W	0.5000	$161.00
16 Watt Pin Based CFL Electronic Ballast	0.0169	45 Watts Incandescent Lamp	0.0450	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
16 Watt Pin Based CFL Electronic Ballast	0.0169	50 Watts Incandescent Lamp	0.0500	$76.17
16 Watt Pin Based CFL Electronic Ballast	0.0169	55 Watts Incandescent Lamp	0.0550	$76.17
16 Watt Pin Based CFL Electronic Ballast	0.0169	60 Watts Incandescent Lamp	0.0600	$76.17
16 Watt Pin Based CFL Electronic Ballast	0.0169	65 Watts Incandescent Lamp	0.0650	$76.17
16 Watt Pin Based CFL Electronic Ballast	0.0169	70 Watts Incandescent Lamp	0.0700	$76.17
16 Watt Pin Based CFL Electronic Ballast	0.0169	75 Watts Incandescent Lamp	0.0750	$76.17
16 Watt Pin Based CFL Electronic Ballast	0.0169	80 Watts Incandescent Lamp	0.0800	$76.17
16 Watt Pin Based CFL Magnetic Ballast	0.0209	45 Watts Incandescent Lamp	0.0450	$76.17
16 Watt Pin Based CFL Magnetic Ballast	0.0209	50 Watts Incandescent Lamp	0.0500	$76.17
16 Watt Pin Based CFL Magnetic Ballast	0.0209	55 Watts Incandescent Lamp	0.0550	$76.17
16 Watt Pin Based CFL Magnetic Ballast	0.0209	60 Watts Incandescent Lamp	0.0600	$76.17
16 Watt Pin Based CFL Magnetic Ballast	0.0209	65 Watts Incandescent Lamp	0.0650	$76.17
16 Watt Pin Based CFL Magnetic Ballast	0.0209	70 Watts Incandescent Lamp	0.0700	$76.17
16 Watt Pin Based CFL Magnetic Ballast	0.0209	75 Watts Incandescent Lamp	0.0750	$76.17
16 Watt Pin Based CFL Magnetic Ballast	0.0209	80 Watts Incandescent Lamp	0.0800	$76.17
16 Watt Screw In CFL Integral Ballast	0.0160	45 Watts Incandescent Lamp	0.0450	$3.00
16 Watt Screw In CFL Integral Ballast	0.0160	50 Watts Incandescent Lamp	0.0500	$3.00
16 Watt Screw In CFL Integral Ballast	0.0160	55 Watts Incandescent Lamp	0.0550	$3.00
16 Watt Screw In CFL Integral Ballast	0.0160	60 Watts Incandescent Lamp	0.0600	$3.00
16 Watt Screw In CFL Integral Ballast	0.0160	65 Watts Incandescent Lamp	0.0650	$3.00
16 Watt Screw In CFL Integral Ballast	0.0160	70 Watts Incandescent Lamp	0.0700	$3.00
16 Watt Screw In CFL Integral Ballast	0.0160	75 Watts Incandescent Lamp	0.0750	$3.00
16 Watt Screw In CFL Integral Ballast	0.0160	80 Watts Incandescent Lamp	0.0800	$3.00
17 Watt Pin Based CFL Electronic Ballast	0.0180	50 Watts Incandescent Lamp	0.0500	$76.17
17 Watt Pin Based CFL Electronic Ballast	0.0180	55 Watts Incandescent Lamp	0.0550	$76.17
17 Watt Pin Based CFL Electronic Ballast	0.0180	60 Watts Incandescent Lamp	0.0600	$76.17
17 Watt Pin Based CFL Electronic Ballast	0.0180	65 Watts Incandescent Lamp	0.0650	$76.17
17 Watt Pin Based CFL Electronic Ballast	0.0180	70 Watts Incandescent Lamp	0.0700	$76.17
17 Watt Pin Based CFL Electronic Ballast	0.0180	75 Watts Incandescent Lamp	0.0750	$76.17
17 Watt Pin Based CFL Electronic Ballast	0.0180	80 Watts Incandescent Lamp	0.0800	$76.17
17 Watt Pin Based CFL Electronic Ballast	0.0180	85 Watts Incandescent Lamp	0.0850	$76.17
17 Watt Pin Based CFL Magnetic Ballast	0.0222	50 Watts Incandescent Lamp	0.0500	$76.17
17 Watt Pin Based CFL Magnetic Ballast	0.0222	55 Watts Incandescent Lamp	0.0550	$76.17
17 Watt Pin Based CFL Magnetic Ballast	0.0222	60 Watts Incandescent Lamp	0.0600	$76.17
17 Watt Pin Based CFL Magnetic Ballast	0.0222	65 Watts Incandescent Lamp	0.0650	$76.17
17 Watt Pin Based CFL Magnetic Ballast	0.0222	70 Watts Incandescent Lamp	0.0700	$76.17
17 Watt Pin Based CFL Magnetic Ballast	0.0222	75 Watts Incandescent Lamp	0.0750	$76.17
17 Watt Pin Based CFL Magnetic Ballast	0.0222	80 Watts Incandescent Lamp	0.0800	$76.17
17 Watt Pin Based CFL Magnetic Ballast	0.0222	85 Watts Incandescent Lamp	0.0850	$76.17
17 Watt Screw In CFL Integral Ballast	0.0170	50 Watts Incandescent Lamp	0.0500	$3.00
17 Watt Screw In CFL Integral Ballast	0.0170	55 Watts Incandescent Lamp	0.0550	$3.00
17 Watt Screw In CFL Integral Ballast	0.0170	60 Watts Incandescent Lamp	0.0600	$3.00
17 Watt Screw In CFL Integral Ballast	0.0170	65 Watts Incandescent Lamp	0.0650	$3.00
17 Watt Screw In CFL Integral Ballast	0.0170	70 Watts Incandescent Lamp	0.0700	$3.00
17 Watt Screw In CFL Integral Ballast	0.0170	75 Watts Incandescent Lamp	0.0750	$3.00
17 Watt Screw In CFL Integral Ballast	0.0170	80 Watts Incandescent Lamp	0.0800	$3.00
17 Watt Screw In CFL Integral Ballast	0.0170	85 Watts Incandescent Lamp	0.0850	$3.00
175W Metal Halide, magnetic ballast	0.2090	High Pressure Sodium, 250W, magnetic ballast	0.2950	$161.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
175W Metal Halide, magnetic ballast	0.2090	Mercury Vapor, 250W, magnetic ballast	0.2950	$161.00
175W Pulse Start Metal Halide, energy saving magnetic ballast	0.1910	250W Metal Halide, magnetic ballast	0.2910	$161.00
175W Pulse Start Metal Halide, energy saving magnetic ballast	0.1910	Incandescent, 1-PS40 500W	0.5000	$161.00
18 Watt Pin Based CFL Electronic Ballast	0.0190	50 Watts Incandescent Lamp	0.0500	$76.17
18 Watt Pin Based CFL Electronic Ballast	0.0190	55 Watts Incandescent Lamp	0.0550	$76.17
18 Watt Pin Based CFL Electronic Ballast	0.0190	60 Watts Incandescent Lamp	0.0600	$76.17
18 Watt Pin Based CFL Electronic Ballast	0.0190	65 Watts Incandescent Lamp	0.0650	$76.17
18 Watt Pin Based CFL Electronic Ballast	0.0190	70 Watts Incandescent Lamp	0.0700	$76.17
18 Watt Pin Based CFL Electronic Ballast	0.0190	75 Watts Incandescent Lamp	0.0750	$76.17
18 Watt Pin Based CFL Electronic Ballast	0.0190	80 Watts Incandescent Lamp	0.0800	$76.17
18 Watt Pin Based CFL Electronic Ballast	0.0190	85 Watts Incandescent Lamp	0.0850	$76.17
18 Watt Pin Based CFL Electronic Ballast	0.0190	90 Watts Incandescent Lamp	0.0900	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	50 Watts Incandescent Lamp	0.0500	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	55 Watts Incandescent Lamp	0.0550	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	60 Watts Incandescent Lamp	0.0600	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	65 Watts Incandescent Lamp	0.0650	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	70 Watts Incandescent Lamp	0.0700	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	75 Watts Incandescent Lamp	0.0750	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	80 Watts Incandescent Lamp	0.0800	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	85 Watts Incandescent Lamp	0.0850	$76.17
18 Watt Pin Based CFL Magnetic Ballast	0.0235	90 Watts Incandescent Lamp	0.0900	$76.17
18 Watt Screw In CFL Integral Ballast	0.0180	50 Watts Incandescent Lamp	0.0500	$3.00
18 Watt Screw In CFL Integral Ballast	0.0180	55 Watts Incandescent Lamp	0.0550	$3.00
18 Watt Screw In CFL Integral Ballast	0.0180	60 Watts Incandescent Lamp	0.0600	$3.00
18 Watt Screw In CFL Integral Ballast	0.0180	65 Watts Incandescent Lamp	0.0650	$3.00
18 Watt Screw In CFL Integral Ballast	0.0180	70 Watts Incandescent Lamp	0.0700	$3.00
18 Watt Screw In CFL Integral Ballast	0.0180	75 Watts Incandescent Lamp	0.0750	$3.00
18 Watt Screw In CFL Integral Ballast	0.0180	80 Watts Incandescent Lamp	0.0800	$3.00
18 Watt Screw In CFL Integral Ballast	0.0180	85 Watts Incandescent Lamp	0.0850	$3.00
18 Watt Screw In CFL Integral Ballast	0.0180	90 Watts Incandescent Lamp	0.0900	$3.00
19 Watt Pin Based CFL Electronic Ballast	0.0201	55 Watts Incandescent Lamp	0.0550	$76.17
19 Watt Pin Based CFL Electronic Ballast	0.0201	60 Watts Incandescent Lamp	0.0600	$76.17
19 Watt Pin Based CFL Electronic Ballast	0.0201	65 Watts Incandescent Lamp	0.0650	$76.17
19 Watt Pin Based CFL Electronic Ballast	0.0201	70 Watts Incandescent Lamp	0.0700	$76.17
19 Watt Pin Based CFL Electronic Ballast	0.0201	75 Watts Incandescent Lamp	0.0750	$76.17
19 Watt Pin Based CFL Electronic Ballast	0.0201	80 Watts Incandescent Lamp	0.0800	$76.17
19 Watt Pin Based CFL Electronic Ballast	0.0201	85 Watts Incandescent Lamp	0.0850	$76.17
19 Watt Pin Based CFL Electronic Ballast	0.0201	90 Watts Incandescent Lamp	0.0900	$76.17
19 Watt Pin Based CFL Electronic Ballast	0.0201	95 Watts Incandescent Lamp	0.0950	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	55 Watts Incandescent Lamp	0.0550	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	60 Watts Incandescent Lamp	0.0600	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	65 Watts Incandescent Lamp	0.0650	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	70 Watts Incandescent Lamp	0.0700	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	75 Watts Incandescent Lamp	0.0750	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	80 Watts Incandescent Lamp	0.0800	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	85 Watts Incandescent Lamp	0.0850	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	90 Watts Incandescent Lamp	0.0900	$76.17
19 Watt Pin Based CFL Magnetic Ballast	0.0248	95 Watts Incandescent Lamp	0.0950	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
19 Watt Screw In CFL Integral Ballast	0.0190	55 Watts Incandescent Lamp	0.0550	$4.48
19 Watt Screw In CFL Integral Ballast	0.0190	60 Watts Incandescent Lamp	0.0600	$4.48
19 Watt Screw In CFL Integral Ballast	0.0190	65 Watts Incandescent Lamp	0.0650	$4.48
19 Watt Screw In CFL Integral Ballast	0.0190	70 Watts Incandescent Lamp	0.0700	$4.48
19 Watt Screw In CFL Integral Ballast	0.0190	75 Watts Incandescent Lamp	0.0750	$4.48
19 Watt Screw In CFL Integral Ballast	0.0190	80 Watts Incandescent Lamp	0.0800	$4.48
19 Watt Screw In CFL Integral Ballast	0.0190	85 Watts Incandescent Lamp	0.0850	$4.48
19 Watt Screw In CFL Integral Ballast	0.0190	90 Watts Incandescent Lamp	0.0900	$4.48
19 Watt Screw In CFL Integral Ballast	0.0190	95 Watts Incandescent Lamp	0.0950	$4.48
20 Watt Pin Based CFL Electronic Ballast	0.0212	60 Watts Incandescent Lamp	0.0600	$76.17
20 Watt Pin Based CFL Electronic Ballast	0.0212	65 Watts Incandescent Lamp	0.0650	$76.17
20 Watt Pin Based CFL Electronic Ballast	0.0212	70 Watts Incandescent Lamp	0.0700	$76.17
20 Watt Pin Based CFL Electronic Ballast	0.0212	75 Watts Incandescent Lamp	0.0750	$76.17
20 Watt Pin Based CFL Electronic Ballast	0.0212	80 Watts Incandescent Lamp	0.0800	$76.17
20 Watt Pin Based CFL Electronic Ballast	0.0212	85 Watts Incandescent Lamp	0.0850	$76.17
20 Watt Pin Based CFL Electronic Ballast	0.0212	90 Watts Incandescent Lamp	0.0900	$76.17
20 Watt Pin Based CFL Electronic Ballast	0.0212	95 Watts Incandescent Lamp	0.0950	$76.17
20 Watt Pin Based CFL Electronic Ballast	0.0212	100 Watts Incandescent Lamp	0.1000	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	60 Watts Incandescent Lamp	0.0600	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	65 Watts Incandescent Lamp	0.0650	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	70 Watts Incandescent Lamp	0.0700	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	75 Watts Incandescent Lamp	0.0750	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	80 Watts Incandescent Lamp	0.0800	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	85 Watts Incandescent Lamp	0.0850	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	90 Watts Incandescent Lamp	0.0900	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	95 Watts Incandescent Lamp	0.0950	$76.17
20 Watt Pin Based CFL Magnetic Ballast	0.0261	100 Watts Incandescent Lamp	0.1000	$76.17
20 Watt Screw In CFL Integral Ballast	0.0200	60 Watts Incandescent Lamp	0.0600	$4.48
20 Watt Screw In CFL Integral Ballast	0.0200	65 Watts Incandescent Lamp	0.0650	$4.48
20 Watt Screw In CFL Integral Ballast	0.0200	70 Watts Incandescent Lamp	0.0700	$4.48
20 Watt Screw In CFL Integral Ballast	0.0200	75 Watts Incandescent Lamp	0.0750	$4.48
20 Watt Screw In CFL Integral Ballast	0.0200	80 Watts Incandescent Lamp	0.0800	$4.48
20 Watt Screw In CFL Integral Ballast	0.0200	85 Watts Incandescent Lamp	0.0850	$4.48
20 Watt Screw In CFL Integral Ballast	0.0200	90 Watts Incandescent Lamp	0.0900	$4.48
20 Watt Screw In CFL Integral Ballast	0.0200	95 Watts Incandescent Lamp	0.0950	$4.48
20 Watt Screw In CFL Integral Ballast	0.0200	100 Watts Incandescent Lamp	0.1000	$4.48
200W Pulse Start Metal Halide, magnetic ballast	0.2320	250W Metal Halide, magnetic ballast	0.2910	$280.00
200W Pulse Start Metal Halide, magnetic ballast	0.2320	High Pressure Sodium, 250W, magnetic ballast	0.2950	$280.00
200W Pulse Start Metal Halide, magnetic ballast	0.2320	Mercury Vapor, 250W, magnetic ballast	0.2950	$280.00
21 Watt Pin Based CFL Electronic Ballast	0.0222	60 Watts Incandescent Lamp	0.0600	$76.17
21 Watt Pin Based CFL Electronic Ballast	0.0222	65 Watts Incandescent Lamp	0.0650	$76.17
21 Watt Pin Based CFL Electronic Ballast	0.0222	70 Watts Incandescent Lamp	0.0700	$76.17
21 Watt Pin Based CFL Electronic Ballast	0.0222	75 Watts Incandescent Lamp	0.0750	$76.17
21 Watt Pin Based CFL Electronic Ballast	0.0222	80 Watts Incandescent Lamp	0.0800	$76.17
21 Watt Pin Based CFL Electronic Ballast	0.0222	85 Watts Incandescent Lamp	0.0850	$76.17
21 Watt Pin Based CFL Electronic Ballast	0.0222	90 Watts Incandescent Lamp	0.0900	$76.17
21 Watt Pin Based CFL Electronic Ballast	0.0222	95 Watts Incandescent Lamp	0.0950	$76.17
21 Watt Pin Based CFL Electronic Ballast	0.0222	100 Watts Incandescent Lamp	0.1000	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
21 Watt Pin Based CFL Electronic Ballast	0.0222	105 Watts Incandescent Lamp	0.1050	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	60 Watts Incandescent Lamp	0.0600	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	65 Watts Incandescent Lamp	0.0650	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	70 Watts Incandescent Lamp	0.0700	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	75 Watts Incandescent Lamp	0.0750	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	80 Watts Incandescent Lamp	0.0800	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	85 Watts Incandescent Lamp	0.0850	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	90 Watts Incandescent Lamp	0.0900	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	95 Watts Incandescent Lamp	0.0950	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	100 Watts Incandescent Lamp	0.1000	$76.17
21 Watt Pin Based CFL Magnetic Ballast	0.0274	105 Watts Incandescent Lamp	0.1050	$76.17
21 Watt Screw In CFL Integral Ballast	0.0210	60 Watts Incandescent Lamp	0.0600	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	65 Watts Incandescent Lamp	0.0650	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	70 Watts Incandescent Lamp	0.0700	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	75 Watts Incandescent Lamp	0.0750	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	80 Watts Incandescent Lamp	0.0800	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	85 Watts Incandescent Lamp	0.0850	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	90 Watts Incandescent Lamp	0.0900	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	95 Watts Incandescent Lamp	0.0950	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	100 Watts Incandescent Lamp	0.1000	$4.48
21 Watt Screw In CFL Integral Ballast	0.0210	105 Watts Incandescent Lamp	0.1050	$4.48
22 Watt Pin Based CFL Electronic Ballast	0.0233	65 Watts Incandescent Lamp	0.0650	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	70 Watts Incandescent Lamp	0.0700	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	75 Watts Incandescent Lamp	0.0750	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	80 Watts Incandescent Lamp	0.0800	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	85 Watts Incandescent Lamp	0.0850	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	90 Watts Incandescent Lamp	0.0900	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	95 Watts Incandescent Lamp	0.0950	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	100 Watts Incandescent Lamp	0.1000	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	105 Watts Incandescent Lamp	0.1050	$76.17
22 Watt Pin Based CFL Electronic Ballast	0.0233	110 Watts Incandescent Lamp	0.1100	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	65 Watts Incandescent Lamp	0.0650	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	70 Watts Incandescent Lamp	0.0700	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	75 Watts Incandescent Lamp	0.0750	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	80 Watts Incandescent Lamp	0.0800	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	85 Watts Incandescent Lamp	0.0850	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	90 Watts Incandescent Lamp	0.0900	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	95 Watts Incandescent Lamp	0.0950	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	100 Watts Incandescent Lamp	0.1000	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	105 Watts Incandescent Lamp	0.1050	$76.17
22 Watt Pin Based CFL Magnetic Ballast	0.0287	110 Watts Incandescent Lamp	0.1100	$76.17
22 Watt Screw In CFL Integral Ballast	0.0220	65 Watts Incandescent Lamp	0.0650	$4.48
22 Watt Screw In CFL Integral Ballast	0.0220	70 Watts Incandescent Lamp	0.0700	$4.48
22 Watt Screw In CFL Integral Ballast	0.0220	75 Watts Incandescent Lamp	0.0750	$4.48
22 Watt Screw In CFL Integral Ballast	0.0220	80 Watts Incandescent Lamp	0.0800	$4.48
22 Watt Screw In CFL Integral Ballast	0.0220	85 Watts Incandescent Lamp	0.0850	$4.48
22 Watt Screw In CFL Integral Ballast	0.0220	90 Watts Incandescent Lamp	0.0900	$4.48
22 Watt Screw In CFL Integral Ballast	0.0220	95 Watts Incandescent Lamp	0.0950	$4.48

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
22 Watt Screw In CFL Integral Ballast	0.0220	100 Watts Incandescent Lamp	0.1000	$4.48
22 Watt Screw In CFL Integral Ballast	0.0220	105 Watts Incandescent Lamp	0.1050	$4.48
22 Watt Screw In CFL Integral Ballast	0.0220	110 Watts Incandescent Lamp	0.1100	$4.48
23 Watt Pin Based CFL Electronic Ballast	0.0243	65 Watts Incandescent Lamp	0.0650	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	70 Watts Incandescent Lamp	0.0700	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	75 Watts Incandescent Lamp	0.0750	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	80 Watts Incandescent Lamp	0.0800	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	85 Watts Incandescent Lamp	0.0850	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	90 Watts Incandescent Lamp	0.0900	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	95 Watts Incandescent Lamp	0.0950	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	100 Watts Incandescent Lamp	0.1000	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	105 Watts Incandescent Lamp	0.1050	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	110 Watts Incandescent Lamp	0.1100	$76.17
23 Watt Pin Based CFL Electronic Ballast	0.0243	115 Watts Incandescent Lamp	0.1150	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	65 Watts Incandescent Lamp	0.0650	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	70 Watts Incandescent Lamp	0.0700	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	75 Watts Incandescent Lamp	0.0750	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	80 Watts Incandescent Lamp	0.0800	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	85 Watts Incandescent Lamp	0.0850	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	90 Watts Incandescent Lamp	0.0900	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	95 Watts Incandescent Lamp	0.0950	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	100 Watts Incandescent Lamp	0.1000	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	105 Watts Incandescent Lamp	0.1050	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	110 Watts Incandescent Lamp	0.1100	$76.17
23 Watt Pin Based CFL Magnetic Ballast	0.0300	115 Watts Incandescent Lamp	0.1150	$76.17
23 Watt Screw In CFL Integral Ballast	0.0230	65 Watts Incandescent Lamp	0.0650	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	70 Watts Incandescent Lamp	0.0700	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	75 Watts Incandescent Lamp	0.0750	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	80 Watts Incandescent Lamp	0.0800	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	85 Watts Incandescent Lamp	0.0850	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	90 Watts Incandescent Lamp	0.0900	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	95 Watts Incandescent Lamp	0.0950	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	100 Watts Incandescent Lamp	0.1000	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	105 Watts Incandescent Lamp	0.1050	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	110 Watts Incandescent Lamp	0.1100	$4.48
23 Watt Screw In CFL Integral Ballast	0.0230	115 Watts Incandescent Lamp	0.1150	$4.48
24 Watt Pin Based CFL Electronic Ballast	0.0254	70 Watts Incandescent Lamp	0.0700	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	75 Watts Incandescent Lamp	0.0750	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	80 Watts Incandescent Lamp	0.0800	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	85 Watts Incandescent Lamp	0.0850	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	90 Watts Incandescent Lamp	0.0900	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	95 Watts Incandescent Lamp	0.0950	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	100 Watts Incandescent Lamp	0.1000	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	105 Watts Incandescent Lamp	0.1050	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	110 Watts Incandescent Lamp	0.1100	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	115 Watts Incandescent Lamp	0.1150	$76.17
24 Watt Pin Based CFL Electronic Ballast	0.0254	120 Watts Incandescent Lamp	0.1200	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	70 Watts Incandescent Lamp	0.0700	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
24 Watt Pin Based CFL Magnetic Ballast	0.0313	75 Watts Incandescent Lamp	0.0750	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	80 Watts Incandescent Lamp	0.0800	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	85 Watts Incandescent Lamp	0.0850	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	90 Watts Incandescent Lamp	0.0900	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	95 Watts Incandescent Lamp	0.0950	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	100 Watts Incandescent Lamp	0.1000	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	105 Watts Incandescent Lamp	0.1050	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	110 Watts Incandescent Lamp	0.1100	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	115 Watts Incandescent Lamp	0.1150	$76.17
24 Watt Pin Based CFL Magnetic Ballast	0.0313	120 Watts Incandescent Lamp	0.1200	$76.17
24 Watt Screw In CFL Integral Ballast	0.0240	70 Watts Incandescent Lamp	0.0700	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	75 Watts Incandescent Lamp	0.0750	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	80 Watts Incandescent Lamp	0.0800	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	85 Watts Incandescent Lamp	0.0850	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	90 Watts Incandescent Lamp	0.0900	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	95 Watts Incandescent Lamp	0.0950	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	100 Watts Incandescent Lamp	0.1000	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	105 Watts Incandescent Lamp	0.1050	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	110 Watts Incandescent Lamp	0.1100	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	115 Watts Incandescent Lamp	0.1150	$4.48
24 Watt Screw In CFL Integral Ballast	0.0240	120 Watts Incandescent Lamp	0.1200	$4.48
25 Watt Pin Based CFL Electronic Ballast	0.0265	75 Watts Incandescent Lamp	0.0750	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	80 Watts Incandescent Lamp	0.0800	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	85 Watts Incandescent Lamp	0.0850	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	90 Watts Incandescent Lamp	0.0900	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	95 Watts Incandescent Lamp	0.0950	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	100 Watts Incandescent Lamp	0.1000	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	105 Watts Incandescent Lamp	0.1050	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	110 Watts Incandescent Lamp	0.1100	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	115 Watts Incandescent Lamp	0.1150	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	120 Watts Incandescent Lamp	0.1200	$76.17
25 Watt Pin Based CFL Electronic Ballast	0.0265	125 Watts Incandescent Lamp	0.1250	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	75 Watts Incandescent Lamp	0.0750	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	80 Watts Incandescent Lamp	0.0800	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	85 Watts Incandescent Lamp	0.0850	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	90 Watts Incandescent Lamp	0.0900	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	95 Watts Incandescent Lamp	0.0950	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	100 Watts Incandescent Lamp	0.1000	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	105 Watts Incandescent Lamp	0.1050	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	110 Watts Incandescent Lamp	0.1100	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	115 Watts Incandescent Lamp	0.1150	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	120 Watts Incandescent Lamp	0.1200	$76.17
25 Watt Pin Based CFL Magnetic Ballast	0.0327	125 Watts Incandescent Lamp	0.1250	$76.17
25 Watt Screw In CFL Integral Ballast	0.0250	75 Watts Incandescent Lamp	0.0750	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	80 Watts Incandescent Lamp	0.0800	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	85 Watts Incandescent Lamp	0.0850	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	90 Watts Incandescent Lamp	0.0900	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	95 Watts Incandescent Lamp	0.0950	$4.48

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
25 Watt Screw In CFL Integral Ballast	0.0250	100 Watts Incandescent Lamp	0.1000	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	105 Watts Incandescent Lamp	0.1050	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	110 Watts Incandescent Lamp	0.1100	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	115 Watts Incandescent Lamp	0.1150	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	120 Watts Incandescent Lamp	0.1200	$4.48
25 Watt Screw In CFL Integral Ballast	0.0250	125 Watts Incandescent Lamp	0.1250	$4.48
250W Metal Halide, magnetic ballast	0.2910	Mercury Vapor, 400W, magnetic ballast	0.4540	$161.00
250W Metal Halide, magnetic ballast	0.2910	High Pressure Sodium, 400W lamp	0.4570	$161.00
26 Watt Pin Based CFL Electronic Ballast	0.0275	75 Watts Incandescent Lamp	0.0750	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	80 Watts Incandescent Lamp	0.0800	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	85 Watts Incandescent Lamp	0.0850	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	90 Watts Incandescent Lamp	0.0900	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	95 Watts Incandescent Lamp	0.0950	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	100 Watts Incandescent Lamp	0.1000	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	105 Watts Incandescent Lamp	0.1050	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	110 Watts Incandescent Lamp	0.1100	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	115 Watts Incandescent Lamp	0.1150	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	120 Watts Incandescent Lamp	0.1200	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	125 Watts Incandescent Lamp	0.1250	$76.17
26 Watt Pin Based CFL Electronic Ballast	0.0275	130 Watts Incandescent Lamp	0.1300	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	75 Watts Incandescent Lamp	0.0750	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	80 Watts Incandescent Lamp	0.0800	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	85 Watts Incandescent Lamp	0.0850	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	90 Watts Incandescent Lamp	0.0900	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	95 Watts Incandescent Lamp	0.0950	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	100 Watts Incandescent Lamp	0.1000	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	105 Watts Incandescent Lamp	0.1050	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	110 Watts Incandescent Lamp	0.1100	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	115 Watts Incandescent Lamp	0.1150	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	120 Watts Incandescent Lamp	0.1200	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	125 Watts Incandescent Lamp	0.1250	$76.17
26 Watt Pin Based CFL Magnetic Ballast	0.0340	130 Watts Incandescent Lamp	0.1300	$76.17
26 Watt Screw In CFL Integral Ballast	0.0260	75 Watts Incandescent Lamp	0.0750	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	80 Watts Incandescent Lamp	0.0800	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	85 Watts Incandescent Lamp	0.0850	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	90 Watts Incandescent Lamp	0.0900	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	95 Watts Incandescent Lamp	0.0950	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	100 Watts Incandescent Lamp	0.1000	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	105 Watts Incandescent Lamp	0.1050	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	110 Watts Incandescent Lamp	0.1100	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	115 Watts Incandescent Lamp	0.1150	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	120 Watts Incandescent Lamp	0.1200	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	125 Watts Incandescent Lamp	0.1250	$4.48
26 Watt Screw In CFL Integral Ballast	0.0260	130 Watts Incandescent Lamp	0.1300	$4.48
27 Watt Pin Based CFL Electronic Ballast	0.0286	80 Watts Incandescent Lamp	0.0800	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	85 Watts Incandescent Lamp	0.0850	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	90 Watts Incandescent Lamp	0.0900	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	95 Watts Incandescent Lamp	0.0950	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
27 Watt Pin Based CFL Electronic Ballast	0.0286	100 Watts Incandescent Lamp	0.1000	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	105 Watts Incandescent Lamp	0.1050	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	110 Watts Incandescent Lamp	0.1100	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	115 Watts Incandescent Lamp	0.1150	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	120 Watts Incandescent Lamp	0.1200	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	125 Watts Incandescent Lamp	0.1250	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	130 Watts Incandescent Lamp	0.1300	$76.17
27 Watt Pin Based CFL Electronic Ballast	0.0286	135 Watts Incandescent Lamp	0.1350	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	80 Watts Incandescent Lamp	0.0800	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	85 Watts Incandescent Lamp	0.0850	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	90 Watts Incandescent Lamp	0.0900	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	95 Watts Incandescent Lamp	0.0950	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	100 Watts Incandescent Lamp	0.1000	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	105 Watts Incandescent Lamp	0.1050	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	110 Watts Incandescent Lamp	0.1100	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	115 Watts Incandescent Lamp	0.1150	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	120 Watts Incandescent Lamp	0.1200	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	125 Watts Incandescent Lamp	0.1250	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	130 Watts Incandescent Lamp	0.1300	$76.17
27 Watt Pin Based CFL Magnetic Ballast	0.0353	135 Watts Incandescent Lamp	0.1350	$76.17
27 Watt Screw In CFL Integral Ballast	0.0270	80 Watts Incandescent Lamp	0.0800	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	85 Watts Incandescent Lamp	0.0850	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	90 Watts Incandescent Lamp	0.0900	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	95 Watts Incandescent Lamp	0.0950	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	100 Watts Incandescent Lamp	0.1000	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	105 Watts Incandescent Lamp	0.1050	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	110 Watts Incandescent Lamp	0.1100	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	115 Watts Incandescent Lamp	0.1150	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	120 Watts Incandescent Lamp	0.1200	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	125 Watts Incandescent Lamp	0.1250	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	130 Watts Incandescent Lamp	0.1300	$4.48
27 Watt Screw In CFL Integral Ballast	0.0270	135 Watts Incandescent Lamp	0.1350	$4.48
28 Watt Pin Based CFL Electronic Ballast	0.0296	80 Watts Incandescent Lamp	0.0800	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	85 Watts Incandescent Lamp	0.0850	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	90 Watts Incandescent Lamp	0.0900	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	95 Watts Incandescent Lamp	0.0950	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	100 Watts Incandescent Lamp	0.1000	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	105 Watts Incandescent Lamp	0.1050	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	110 Watts Incandescent Lamp	0.1100	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	115 Watts Incandescent Lamp	0.1150	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	120 Watts Incandescent Lamp	0.1200	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	125 Watts Incandescent Lamp	0.1250	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	130 Watts Incandescent Lamp	0.1300	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	135 Watts Incandescent Lamp	0.1350	$76.17
28 Watt Pin Based CFL Electronic Ballast	0.0296	140 Watts Incandescent Lamp	0.1400	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	80 Watts Incandescent Lamp	0.0800	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	85 Watts Incandescent Lamp	0.0850	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	90 Watts Incandescent Lamp	0.0900	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
28 Watt Pin Based CFL Magnetic Ballast	0.0366	95 Watts Incandescent Lamp	0.0950	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	100 Watts Incandescent Lamp	0.1000	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	105 Watts Incandescent Lamp	0.1050	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	110 Watts Incandescent Lamp	0.1100	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	115 Watts Incandescent Lamp	0.1150	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	120 Watts Incandescent Lamp	0.1200	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	125 Watts Incandescent Lamp	0.1250	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	130 Watts Incandescent Lamp	0.1300	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	135 Watts Incandescent Lamp	0.1350	$76.17
28 Watt Pin Based CFL Magnetic Ballast	0.0366	140 Watts Incandescent Lamp	0.1400	$76.17
28 Watt Screw In CFL Integral Ballast	0.0280	80 Watts Incandescent Lamp	0.0800	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	85 Watts Incandescent Lamp	0.0850	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	90 Watts Incandescent Lamp	0.0900	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	95 Watts Incandescent Lamp	0.0950	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	100 Watts Incandescent Lamp	0.1000	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	105 Watts Incandescent Lamp	0.1050	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	110 Watts Incandescent Lamp	0.1100	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	115 Watts Incandescent Lamp	0.1150	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	120 Watts Incandescent Lamp	0.1200	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	125 Watts Incandescent Lamp	0.1250	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	130 Watts Incandescent Lamp	0.1300	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	135 Watts Incandescent Lamp	0.1350	$6.75
28 Watt Screw In CFL Integral Ballast	0.0280	140 Watts Incandescent Lamp	0.1400	$6.75
29 Watt Pin Based CFL Electronic Ballast	0.0307	85 Watts Incandescent Lamp	0.0850	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	90 Watts Incandescent Lamp	0.0900	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	95 Watts Incandescent Lamp	0.0950	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	100 Watts Incandescent Lamp	0.1000	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	105 Watts Incandescent Lamp	0.1050	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	110 Watts Incandescent Lamp	0.1100	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	115 Watts Incandescent Lamp	0.1150	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	120 Watts Incandescent Lamp	0.1200	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	125 Watts Incandescent Lamp	0.1250	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	130 Watts Incandescent Lamp	0.1300	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	135 Watts Incandescent Lamp	0.1350	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	140 Watts Incandescent Lamp	0.1400	$76.17
29 Watt Pin Based CFL Electronic Ballast	0.0307	145 Watts Incandescent Lamp	0.1450	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	85 Watts Incandescent Lamp	0.0850	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	90 Watts Incandescent Lamp	0.0900	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	95 Watts Incandescent Lamp	0.0950	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	100 Watts Incandescent Lamp	0.1000	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	105 Watts Incandescent Lamp	0.1050	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	110 Watts Incandescent Lamp	0.1100	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	115 Watts Incandescent Lamp	0.1150	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	120 Watts Incandescent Lamp	0.1200	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	125 Watts Incandescent Lamp	0.1250	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	130 Watts Incandescent Lamp	0.1300	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	135 Watts Incandescent Lamp	0.1350	$76.17
29 Watt Pin Based CFL Magnetic Ballast	0.0379	140 Watts Incandescent Lamp	0.1400	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
29 Watt Pin Based CFL Magnetic Ballast	0.0379	145 Watts Incandescent Lamp	0.1450	$76.17
29 Watt Screw In CFL Integral Ballast	0.0290	85 Watts Incandescent Lamp	0.0850	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	90 Watts Incandescent Lamp	0.0900	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	95 Watts Incandescent Lamp	0.0950	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	100 Watts Incandescent Lamp	0.1000	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	105 Watts Incandescent Lamp	0.1050	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	110 Watts Incandescent Lamp	0.1100	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	115 Watts Incandescent Lamp	0.1150	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	120 Watts Incandescent Lamp	0.1200	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	125 Watts Incandescent Lamp	0.1250	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	130 Watts Incandescent Lamp	0.1300	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	135 Watts Incandescent Lamp	0.1350	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	140 Watts Incandescent Lamp	0.1400	$6.75
29 Watt Screw In CFL Integral Ballast	0.0290	145 Watts Incandescent Lamp	0.1450	$6.75
2W LED Exit Sign	0.0020	30W Incandescent Exit Sign	0.0300	$80.00
2W LED Exit Sign	0.0020	40W Incandescent Exit Sign	0.0400	$80.00
30 Watt Pin Based CFL Electronic Ballast	0.0317	90 Watts Incandescent Lamp	0.0900	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	95 Watts Incandescent Lamp	0.0950	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	100 Watts Incandescent Lamp	0.1000	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	105 Watts Incandescent Lamp	0.1050	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	110 Watts Incandescent Lamp	0.1100	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	115 Watts Incandescent Lamp	0.1150	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	120 Watts Incandescent Lamp	0.1200	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	125 Watts Incandescent Lamp	0.1250	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	130 Watts Incandescent Lamp	0.1300	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	135 Watts Incandescent Lamp	0.1350	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	140 Watts Incandescent Lamp	0.1400	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	145 Watts Incandescent Lamp	0.1450	$76.17
30 Watt Pin Based CFL Electronic Ballast	0.0317	150 Watts Incandescent Lamp	0.1500	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	90 Watts Incandescent Lamp	0.0900	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	95 Watts Incandescent Lamp	0.0950	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	100 Watts Incandescent Lamp	0.1000	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	105 Watts Incandescent Lamp	0.1050	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	110 Watts Incandescent Lamp	0.1100	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	115 Watts Incandescent Lamp	0.1150	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	120 Watts Incandescent Lamp	0.1200	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	125 Watts Incandescent Lamp	0.1250	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	130 Watts Incandescent Lamp	0.1300	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	135 Watts Incandescent Lamp	0.1350	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	140 Watts Incandescent Lamp	0.1400	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	145 Watts Incandescent Lamp	0.1450	$76.17
30 Watt Pin Based CFL Magnetic Ballast	0.0392	150 Watts Incandescent Lamp	0.1500	$76.17
30 Watt Screw In CFL Integral Ballast	0.0300	90 Watts Incandescent Lamp	0.0900	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	95 Watts Incandescent Lamp	0.0950	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	100 Watts Incandescent Lamp	0.1000	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	105 Watts Incandescent Lamp	0.1050	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	110 Watts Incandescent Lamp	0.1100	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	115 Watts Incandescent Lamp	0.1150	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
30 Watt Screw In CFL Integral Ballast	0.0300	120 Watts Incandescent Lamp	0.1200	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	125 Watts Incandescent Lamp	0.1250	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	130 Watts Incandescent Lamp	0.1300	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	135 Watts Incandescent Lamp	0.1350	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	140 Watts Incandescent Lamp	0.1400	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	145 Watts Incandescent Lamp	0.1450	$6.75
30 Watt Screw In CFL Integral Ballast	0.0300	150 Watts Incandescent Lamp	0.1500	$6.75
31 Watt Pin Based CFL Electronic Ballast	0.0328	90 Watts Incandescent Lamp	0.0900	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	95 Watts Incandescent Lamp	0.0950	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	100 Watts Incandescent Lamp	0.1000	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	105 Watts Incandescent Lamp	0.1050	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	110 Watts Incandescent Lamp	0.1100	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	115 Watts Incandescent Lamp	0.1150	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	120 Watts Incandescent Lamp	0.1200	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	125 Watts Incandescent Lamp	0.1250	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	130 Watts Incandescent Lamp	0.1300	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	135 Watts Incandescent Lamp	0.1350	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	140 Watts Incandescent Lamp	0.1400	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	145 Watts Incandescent Lamp	0.1450	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	150 Watts Incandescent Lamp	0.1500	$76.17
31 Watt Pin Based CFL Electronic Ballast	0.0328	155 Watts Incandescent Lamp	0.1550	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	90 Watts Incandescent Lamp	0.0900	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	95 Watts Incandescent Lamp	0.0950	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	100 Watts Incandescent Lamp	0.1000	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	105 Watts Incandescent Lamp	0.1050	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	110 Watts Incandescent Lamp	0.1100	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	115 Watts Incandescent Lamp	0.1150	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	120 Watts Incandescent Lamp	0.1200	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	125 Watts Incandescent Lamp	0.1250	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	130 Watts Incandescent Lamp	0.1300	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	135 Watts Incandescent Lamp	0.1350	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	140 Watts Incandescent Lamp	0.1400	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	145 Watts Incandescent Lamp	0.1450	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	150 Watts Incandescent Lamp	0.1500	$76.17
31 Watt Pin Based CFL Magnetic Ballast	0.0405	155 Watts Incandescent Lamp	0.1550	$76.17
31 Watt Screw In CFL Integral Ballast	0.0310	90 Watts Incandescent Lamp	0.0900	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	95 Watts Incandescent Lamp	0.0950	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	100 Watts Incandescent Lamp	0.1000	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	105 Watts Incandescent Lamp	0.1050	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	110 Watts Incandescent Lamp	0.1100	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	115 Watts Incandescent Lamp	0.1150	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	120 Watts Incandescent Lamp	0.1200	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	125 Watts Incandescent Lamp	0.1250	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	130 Watts Incandescent Lamp	0.1300	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	135 Watts Incandescent Lamp	0.1350	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	140 Watts Incandescent Lamp	0.1400	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	145 Watts Incandescent Lamp	0.1450	$6.75
31 Watt Screw In CFL Integral Ballast	0.0310	150 Watts Incandescent Lamp	0.1500	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
31 Watt Screw In CFL Integral Ballast	0.0310	155 Watts Incandescent Lamp	0.1550	$6.75
32 Watt Pin Based CFL Electronic Ballast	0.0339	95 Watts Incandescent Lamp	0.0950	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	100 Watts Incandescent Lamp	0.1000	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	105 Watts Incandescent Lamp	0.1050	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	110 Watts Incandescent Lamp	0.1100	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	115 Watts Incandescent Lamp	0.1150	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	120 Watts Incandescent Lamp	0.1200	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	125 Watts Incandescent Lamp	0.1250	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	130 Watts Incandescent Lamp	0.1300	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	135 Watts Incandescent Lamp	0.1350	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	140 Watts Incandescent Lamp	0.1400	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	145 Watts Incandescent Lamp	0.1450	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	150 Watts Incandescent Lamp	0.1500	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	155 Watts Incandescent Lamp	0.1550	$76.17
32 Watt Pin Based CFL Electronic Ballast	0.0339	160 Watts Incandescent Lamp	0.1600	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	95 Watts Incandescent Lamp	0.0950	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	100 Watts Incandescent Lamp	0.1000	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	105 Watts Incandescent Lamp	0.1050	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	110 Watts Incandescent Lamp	0.1100	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	115 Watts Incandescent Lamp	0.1150	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	120 Watts Incandescent Lamp	0.1200	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	125 Watts Incandescent Lamp	0.1250	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	130 Watts Incandescent Lamp	0.1300	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	135 Watts Incandescent Lamp	0.1350	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	140 Watts Incandescent Lamp	0.1400	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	145 Watts Incandescent Lamp	0.1450	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	150 Watts Incandescent Lamp	0.1500	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	155 Watts Incandescent Lamp	0.1550	$76.17
32 Watt Pin Based CFL Magnetic Ballast	0.0418	160 Watts Incandescent Lamp	0.1600	$76.17
32 Watt Screw In CFL Integral Ballast	0.0320	95 Watts Incandescent Lamp	0.0950	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	100 Watts Incandescent Lamp	0.1000	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	105 Watts Incandescent Lamp	0.1050	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	110 Watts Incandescent Lamp	0.1100	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	115 Watts Incandescent Lamp	0.1150	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	120 Watts Incandescent Lamp	0.1200	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	125 Watts Incandescent Lamp	0.1250	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	130 Watts Incandescent Lamp	0.1300	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	135 Watts Incandescent Lamp	0.1350	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	140 Watts Incandescent Lamp	0.1400	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	145 Watts Incandescent Lamp	0.1450	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	150 Watts Incandescent Lamp	0.1500	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	155 Watts Incandescent Lamp	0.1550	$6.75
32 Watt Screw In CFL Integral Ballast	0.0320	160 Watts Incandescent Lamp	0.1600	$6.75
320W Pulse Start Metal Halide, magnetic ballast	0.3670	400W Metal Halide, magnetic ballast	0.4560	$283.00
320W Pulse Start Metal Halide, magnetic ballast	0.3670	400W Metal Halide, magnetic ballast	0.4560	$283.00
320W Pulse Start Metal Halide, magnetic ballast	0.3670	Mercury Vapor, 400W, magnetic ballast	0.4540	$283.00
33 Watt Pin Based CFL Electronic Ballast	0.0349	95 Watts Incandescent Lamp	0.0950	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	100 Watts Incandescent Lamp	0.1000	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
33 Watt Pin Based CFL Electronic Ballast	0.0349	105 Watts Incandescent Lamp	0.1050	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	110 Watts Incandescent Lamp	0.1100	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	115 Watts Incandescent Lamp	0.1150	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	120 Watts Incandescent Lamp	0.1200	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	125 Watts Incandescent Lamp	0.1250	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	130 Watts Incandescent Lamp	0.1300	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	135 Watts Incandescent Lamp	0.1350	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	140 Watts Incandescent Lamp	0.1400	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	145 Watts Incandescent Lamp	0.1450	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	150 Watts Incandescent Lamp	0.1500	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	155 Watts Incandescent Lamp	0.1550	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	160 Watts Incandescent Lamp	0.1600	$76.17
33 Watt Pin Based CFL Electronic Ballast	0.0349	165 Watts Incandescent Lamp	0.1650	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	95 Watts Incandescent Lamp	0.0950	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	100 Watts Incandescent Lamp	0.1000	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	105 Watts Incandescent Lamp	0.1050	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	110 Watts Incandescent Lamp	0.1100	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	115 Watts Incandescent Lamp	0.1150	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	120 Watts Incandescent Lamp	0.1200	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	125 Watts Incandescent Lamp	0.1250	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	130 Watts Incandescent Lamp	0.1300	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	135 Watts Incandescent Lamp	0.1350	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	140 Watts Incandescent Lamp	0.1400	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	145 Watts Incandescent Lamp	0.1450	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	150 Watts Incandescent Lamp	0.1500	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	155 Watts Incandescent Lamp	0.1550	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	160 Watts Incandescent Lamp	0.1600	$76.17
33 Watt Pin Based CFL Magnetic Ballast	0.0431	165 Watts Incandescent Lamp	0.1650	$76.17
33 Watt Screw In CFL Integral Ballast	0.0330	95 Watts Incandescent Lamp	0.0950	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	100 Watts Incandescent Lamp	0.1000	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	105 Watts Incandescent Lamp	0.1050	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	110 Watts Incandescent Lamp	0.1100	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	115 Watts Incandescent Lamp	0.1150	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	120 Watts Incandescent Lamp	0.1200	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	125 Watts Incandescent Lamp	0.1250	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	130 Watts Incandescent Lamp	0.1300	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	135 Watts Incandescent Lamp	0.1350	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	140 Watts Incandescent Lamp	0.1400	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	145 Watts Incandescent Lamp	0.1450	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	150 Watts Incandescent Lamp	0.1500	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	155 Watts Incandescent Lamp	0.1550	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	160 Watts Incandescent Lamp	0.1600	$6.75
33 Watt Screw In CFL Integral Ballast	0.0330	165 Watts Incandescent Lamp	0.1650	$6.75
34 Watt Pin Based CFL Electronic Ballast	0.0360	100 Watts Incandescent Lamp	0.1000	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	105 Watts Incandescent Lamp	0.1050	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	110 Watts Incandescent Lamp	0.1100	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	115 Watts Incandescent Lamp	0.1150	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	120 Watts Incandescent Lamp	0.1200	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
34 Watt Pin Based CFL Electronic Ballast	0.0360	125 Watts Incandescent Lamp	0.1250	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	130 Watts Incandescent Lamp	0.1300	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	135 Watts Incandescent Lamp	0.1350	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	140 Watts Incandescent Lamp	0.1400	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	145 Watts Incandescent Lamp	0.1450	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	150 Watts Incandescent Lamp	0.1500	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	155 Watts Incandescent Lamp	0.1550	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	160 Watts Incandescent Lamp	0.1600	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	165 Watts Incandescent Lamp	0.1650	$76.17
34 Watt Pin Based CFL Electronic Ballast	0.0360	170 Watts Incandescent Lamp	0.1700	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	100 Watts Incandescent Lamp	0.1000	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	105 Watts Incandescent Lamp	0.1050	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	110 Watts Incandescent Lamp	0.1100	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	115 Watts Incandescent Lamp	0.1150	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	120 Watts Incandescent Lamp	0.1200	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	125 Watts Incandescent Lamp	0.1250	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	130 Watts Incandescent Lamp	0.1300	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	135 Watts Incandescent Lamp	0.1350	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	140 Watts Incandescent Lamp	0.1400	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	145 Watts Incandescent Lamp	0.1450	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	150 Watts Incandescent Lamp	0.1500	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	155 Watts Incandescent Lamp	0.1550	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	160 Watts Incandescent Lamp	0.1600	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	165 Watts Incandescent Lamp	0.1650	$76.17
34 Watt Pin Based CFL Magnetic Ballast	0.0444	170 Watts Incandescent Lamp	0.1700	$76.17
34 Watt Screw In CFL Integral Ballast	0.0340	100 Watts Incandescent Lamp	0.1000	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	105 Watts Incandescent Lamp	0.1050	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	110 Watts Incandescent Lamp	0.1100	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	115 Watts Incandescent Lamp	0.1150	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	120 Watts Incandescent Lamp	0.1200	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	125 Watts Incandescent Lamp	0.1250	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	130 Watts Incandescent Lamp	0.1300	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	135 Watts Incandescent Lamp	0.1350	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	140 Watts Incandescent Lamp	0.1400	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	145 Watts Incandescent Lamp	0.1450	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	150 Watts Incandescent Lamp	0.1500	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	155 Watts Incandescent Lamp	0.1550	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	160 Watts Incandescent Lamp	0.1600	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	165 Watts Incandescent Lamp	0.1650	$6.75
34 Watt Screw In CFL Integral Ballast	0.0340	170 Watts Incandescent Lamp	0.1700	$6.75
35 Watt Pin Based CFL Electronic Ballast	0.0370	105 Watts Incandescent Lamp	0.1050	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	110 Watts Incandescent Lamp	0.1100	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	115 Watts Incandescent Lamp	0.1150	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	120 Watts Incandescent Lamp	0.1200	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	125 Watts Incandescent Lamp	0.1250	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	130 Watts Incandescent Lamp	0.1300	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	135 Watts Incandescent Lamp	0.1350	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	140 Watts Incandescent Lamp	0.1400	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
35 Watt Pin Based CFL Electronic Ballast	0.0370	145 Watts Incandescent Lamp	0.1450	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	150 Watts Incandescent Lamp	0.1500	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	155 Watts Incandescent Lamp	0.1550	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	160 Watts Incandescent Lamp	0.1600	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	165 Watts Incandescent Lamp	0.1650	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	170 Watts Incandescent Lamp	0.1700	$76.17
35 Watt Pin Based CFL Electronic Ballast	0.0370	175 Watts Incandescent Lamp	0.1750	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	105 Watts Incandescent Lamp	0.1050	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	110 Watts Incandescent Lamp	0.1100	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	115 Watts Incandescent Lamp	0.1150	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	120 Watts Incandescent Lamp	0.1200	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	125 Watts Incandescent Lamp	0.1250	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	130 Watts Incandescent Lamp	0.1300	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	135 Watts Incandescent Lamp	0.1350	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	140 Watts Incandescent Lamp	0.1400	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	145 Watts Incandescent Lamp	0.1450	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	150 Watts Incandescent Lamp	0.1500	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	155 Watts Incandescent Lamp	0.1550	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	160 Watts Incandescent Lamp	0.1600	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	165 Watts Incandescent Lamp	0.1650	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	170 Watts Incandescent Lamp	0.1700	$76.17
35 Watt Pin Based CFL Magnetic Ballast	0.0457	175 Watts Incandescent Lamp	0.1750	$76.17
35 Watt Screw In CFL Integral Ballast	0.0350	105 Watts Incandescent Lamp	0.1050	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	110 Watts Incandescent Lamp	0.1100	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	115 Watts Incandescent Lamp	0.1150	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	120 Watts Incandescent Lamp	0.1200	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	125 Watts Incandescent Lamp	0.1250	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	130 Watts Incandescent Lamp	0.1300	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	135 Watts Incandescent Lamp	0.1350	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	140 Watts Incandescent Lamp	0.1400	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	145 Watts Incandescent Lamp	0.1450	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	150 Watts Incandescent Lamp	0.1500	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	155 Watts Incandescent Lamp	0.1550	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	160 Watts Incandescent Lamp	0.1600	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	165 Watts Incandescent Lamp	0.1650	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	170 Watts Incandescent Lamp	0.1700	$6.75
35 Watt Screw In CFL Integral Ballast	0.0350	175 Watts Incandescent Lamp	0.1750	$6.75
36 Watt Pin Based CFL Electronic Ballast	0.0381	105 Watts Incandescent Lamp	0.1050	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	110 Watts Incandescent Lamp	0.1100	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	115 Watts Incandescent Lamp	0.1150	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	120 Watts Incandescent Lamp	0.1200	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	125 Watts Incandescent Lamp	0.1250	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	130 Watts Incandescent Lamp	0.1300	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	135 Watts Incandescent Lamp	0.1350	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	140 Watts Incandescent Lamp	0.1400	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	145 Watts Incandescent Lamp	0.1450	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	150 Watts Incandescent Lamp	0.1500	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	155 Watts Incandescent Lamp	0.1550	$76.17

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
36 Watt Pin Based CFL Electronic Ballast	0.0381	160 Watts Incandescent Lamp	0.1600	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	165 Watts Incandescent Lamp	0.1650	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	170 Watts Incandescent Lamp	0.1700	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	175 Watts Incandescent Lamp	0.1750	$76.17
36 Watt Pin Based CFL Electronic Ballast	0.0381	180 Watts Incandescent Lamp	0.1800	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	105 Watts Incandescent Lamp	0.1050	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	110 Watts Incandescent Lamp	0.1100	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	115 Watts Incandescent Lamp	0.1150	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	120 Watts Incandescent Lamp	0.1200	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	125 Watts Incandescent Lamp	0.1250	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	130 Watts Incandescent Lamp	0.1300	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	135 Watts Incandescent Lamp	0.1350	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	140 Watts Incandescent Lamp	0.1400	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	145 Watts Incandescent Lamp	0.1450	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	150 Watts Incandescent Lamp	0.1500	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	155 Watts Incandescent Lamp	0.1550	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	160 Watts Incandescent Lamp	0.1600	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	165 Watts Incandescent Lamp	0.1650	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	170 Watts Incandescent Lamp	0.1700	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	175 Watts Incandescent Lamp	0.1750	$76.17
36 Watt Pin Based CFL Magnetic Ballast	0.0470	180 Watts Incandescent Lamp	0.1800	$76.17
36 Watt Screw In CFL Integral Ballast	0.0360	105 Watts Incandescent Lamp	0.1050	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	110 Watts Incandescent Lamp	0.1100	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	115 Watts Incandescent Lamp	0.1150	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	120 Watts Incandescent Lamp	0.1200	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	125 Watts Incandescent Lamp	0.1250	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	130 Watts Incandescent Lamp	0.1300	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	135 Watts Incandescent Lamp	0.1350	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	140 Watts Incandescent Lamp	0.1400	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	145 Watts Incandescent Lamp	0.1450	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	150 Watts Incandescent Lamp	0.1500	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	155 Watts Incandescent Lamp	0.1550	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	160 Watts Incandescent Lamp	0.1600	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	165 Watts Incandescent Lamp	0.1650	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	170 Watts Incandescent Lamp	0.1700	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	175 Watts Incandescent Lamp	0.1750	$6.75
36 Watt Screw In CFL Integral Ballast	0.0360	180 Watts Incandescent Lamp	0.1800	$6.75
360W Pulse Start Metal Halide, magnetic ballast	0.4180	400W Metal Halide, magnetic ballast	0.4560	$283.00
360W Pulse Start Metal Halide, magnetic ballast	0.4180	400W Metal Halide, magnetic ballast	0.4560	$283.00
360W Pulse Start Metal Halide, magnetic ballast	0.4180	Mercury Vapor, 400W, magnetic ballast	0.4540	$283.00
360W Pulse Start Metal Halide, magnetic ballast	0.4180	High Pressure Sodium, 400W lamp	0.4570	$283.00
37 Watt Pin Based CFL Electronic Ballast	0.0391	110 Watts Incandescent Lamp	0.1100	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	115 Watts Incandescent Lamp	0.1150	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	120 Watts Incandescent Lamp	0.1200	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	125 Watts Incandescent Lamp	0.1250	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	130 Watts Incandescent Lamp	0.1300	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	135 Watts Incandescent Lamp	0.1350	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	140 Watts Incandescent Lamp	0.1400	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
37 Watt Pin Based CFL Electronic Ballast	0.0391	145 Watts Incandescent Lamp	0.1450	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	150 Watts Incandescent Lamp	0.1500	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	155 Watts Incandescent Lamp	0.1550	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	160 Watts Incandescent Lamp	0.1600	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	165 Watts Incandescent Lamp	0.1650	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	170 Watts Incandescent Lamp	0.1700	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	175 Watts Incandescent Lamp	0.1750	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	180 Watts Incandescent Lamp	0.1800	$102.62
37 Watt Pin Based CFL Electronic Ballast	0.0391	185 Watts Incandescent Lamp	0.1850	$102.62
37 Watt Pin Based CFL Magnetic Ballast	0.0483	110 Watts Incandescent Lamp	0.1100	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	115 Watts Incandescent Lamp	0.1150	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	120 Watts Incandescent Lamp	0.1200	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	125 Watts Incandescent Lamp	0.1250	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	130 Watts Incandescent Lamp	0.1300	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	135 Watts Incandescent Lamp	0.1350	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	140 Watts Incandescent Lamp	0.1400	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	145 Watts Incandescent Lamp	0.1450	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	150 Watts Incandescent Lamp	0.1500	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	155 Watts Incandescent Lamp	0.1550	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	160 Watts Incandescent Lamp	0.1600	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	165 Watts Incandescent Lamp	0.1650	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	170 Watts Incandescent Lamp	0.1700	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	175 Watts Incandescent Lamp	0.1750	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	180 Watts Incandescent Lamp	0.1800	$112.24
37 Watt Pin Based CFL Magnetic Ballast	0.0483	185 Watts Incandescent Lamp	0.1850	$112.24
37 Watt Screw In CFL Integral Ballast	0.0370	110 Watts Incandescent Lamp	0.1100	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	115 Watts Incandescent Lamp	0.1150	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	120 Watts Incandescent Lamp	0.1200	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	125 Watts Incandescent Lamp	0.1250	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	130 Watts Incandescent Lamp	0.1300	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	135 Watts Incandescent Lamp	0.1350	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	140 Watts Incandescent Lamp	0.1400	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	145 Watts Incandescent Lamp	0.1450	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	150 Watts Incandescent Lamp	0.1500	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	155 Watts Incandescent Lamp	0.1550	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	160 Watts Incandescent Lamp	0.1600	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	165 Watts Incandescent Lamp	0.1650	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	170 Watts Incandescent Lamp	0.1700	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	175 Watts Incandescent Lamp	0.1750	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	180 Watts Incandescent Lamp	0.1800	$6.75
37 Watt Screw In CFL Integral Ballast	0.0370	185 Watts Incandescent Lamp	0.1850	$6.75
38 Watt Pin Based CFL Electronic Ballast	0.0402	110 Watts Incandescent Lamp	0.1100	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	115 Watts Incandescent Lamp	0.1150	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	120 Watts Incandescent Lamp	0.1200	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	125 Watts Incandescent Lamp	0.1250	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	130 Watts Incandescent Lamp	0.1300	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	135 Watts Incandescent Lamp	0.1350	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	140 Watts Incandescent Lamp	0.1400	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
38 Watt Pin Based CFL Electronic Ballast	0.0402	145 Watts Incandescent Lamp	0.1450	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	150 Watts Incandescent Lamp	0.1500	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	155 Watts Incandescent Lamp	0.1550	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	160 Watts Incandescent Lamp	0.1600	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	165 Watts Incandescent Lamp	0.1650	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	170 Watts Incandescent Lamp	0.1700	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	175 Watts Incandescent Lamp	0.1750	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	180 Watts Incandescent Lamp	0.1800	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	185 Watts Incandescent Lamp	0.1850	$102.62
38 Watt Pin Based CFL Electronic Ballast	0.0402	190 Watts Incandescent Lamp	0.1900	$102.62
38 Watt Pin Based CFL Magnetic Ballast	0.0496	110 Watts Incandescent Lamp	0.1100	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	115 Watts Incandescent Lamp	0.1150	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	120 Watts Incandescent Lamp	0.1200	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	125 Watts Incandescent Lamp	0.1250	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	130 Watts Incandescent Lamp	0.1300	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	135 Watts Incandescent Lamp	0.1350	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	140 Watts Incandescent Lamp	0.1400	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	145 Watts Incandescent Lamp	0.1450	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	150 Watts Incandescent Lamp	0.1500	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	155 Watts Incandescent Lamp	0.1550	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	160 Watts Incandescent Lamp	0.1600	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	165 Watts Incandescent Lamp	0.1650	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	170 Watts Incandescent Lamp	0.1700	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	175 Watts Incandescent Lamp	0.1750	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	180 Watts Incandescent Lamp	0.1800	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	185 Watts Incandescent Lamp	0.1850	$112.24
38 Watt Pin Based CFL Magnetic Ballast	0.0496	190 Watts Incandescent Lamp	0.1900	$112.24
38 Watt Screw In CFL Integral Ballast	0.0380	110 Watts Incandescent Lamp	0.1100	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	115 Watts Incandescent Lamp	0.1150	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	120 Watts Incandescent Lamp	0.1200	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	125 Watts Incandescent Lamp	0.1250	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	130 Watts Incandescent Lamp	0.1300	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	135 Watts Incandescent Lamp	0.1350	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	140 Watts Incandescent Lamp	0.1400	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	145 Watts Incandescent Lamp	0.1450	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	150 Watts Incandescent Lamp	0.1500	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	155 Watts Incandescent Lamp	0.1550	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	160 Watts Incandescent Lamp	0.1600	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	165 Watts Incandescent Lamp	0.1650	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	170 Watts Incandescent Lamp	0.1700	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	175 Watts Incandescent Lamp	0.1750	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	180 Watts Incandescent Lamp	0.1800	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	185 Watts Incandescent Lamp	0.1850	$6.75
38 Watt Screw In CFL Integral Ballast	0.0380	190 Watts Incandescent Lamp	0.1900	$6.75
39 Watt Pin Based CFL Electronic Ballast	0.0413	115 Watts Incandescent Lamp	0.1150	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	120 Watts Incandescent Lamp	0.1200	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	125 Watts Incandescent Lamp	0.1250	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	130 Watts Incandescent Lamp	0.1300	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
39 Watt Pin Based CFL Electronic Ballast	0.0413	135 Watts Incandescent Lamp	0.1350	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	140 Watts Incandescent Lamp	0.1400	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	145 Watts Incandescent Lamp	0.1450	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	150 Watts Incandescent Lamp	0.1500	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	155 Watts Incandescent Lamp	0.1550	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	160 Watts Incandescent Lamp	0.1600	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	165 Watts Incandescent Lamp	0.1650	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	170 Watts Incandescent Lamp	0.1700	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	175 Watts Incandescent Lamp	0.1750	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	180 Watts Incandescent Lamp	0.1800	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	185 Watts Incandescent Lamp	0.1850	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	190 Watts Incandescent Lamp	0.1900	$102.62
39 Watt Pin Based CFL Electronic Ballast	0.0413	195 Watts Incandescent Lamp	0.1950	$102.62
39 Watt Pin Based CFL Magnetic Ballast	0.0509	115 Watts Incandescent Lamp	0.1150	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	120 Watts Incandescent Lamp	0.1200	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	125 Watts Incandescent Lamp	0.1250	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	130 Watts Incandescent Lamp	0.1300	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	135 Watts Incandescent Lamp	0.1350	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	140 Watts Incandescent Lamp	0.1400	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	145 Watts Incandescent Lamp	0.1450	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	150 Watts Incandescent Lamp	0.1500	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	155 Watts Incandescent Lamp	0.1550	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	160 Watts Incandescent Lamp	0.1600	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	165 Watts Incandescent Lamp	0.1650	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	170 Watts Incandescent Lamp	0.1700	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	175 Watts Incandescent Lamp	0.1750	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	180 Watts Incandescent Lamp	0.1800	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	185 Watts Incandescent Lamp	0.1850	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	190 Watts Incandescent Lamp	0.1900	$112.24
39 Watt Pin Based CFL Magnetic Ballast	0.0509	195 Watts Incandescent Lamp	0.1950	$112.24
39 Watt Screw In CFL Integral Ballast	0.0390	115 Watts Incandescent Lamp	0.1150	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	120 Watts Incandescent Lamp	0.1200	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	125 Watts Incandescent Lamp	0.1250	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	130 Watts Incandescent Lamp	0.1300	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	135 Watts Incandescent Lamp	0.1350	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	140 Watts Incandescent Lamp	0.1400	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	145 Watts Incandescent Lamp	0.1450	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	150 Watts Incandescent Lamp	0.1500	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	155 Watts Incandescent Lamp	0.1550	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	160 Watts Incandescent Lamp	0.1600	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	165 Watts Incandescent Lamp	0.1650	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	170 Watts Incandescent Lamp	0.1700	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	175 Watts Incandescent Lamp	0.1750	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	180 Watts Incandescent Lamp	0.1800	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	185 Watts Incandescent Lamp	0.1850	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	190 Watts Incandescent Lamp	0.1900	$6.75
39 Watt Screw In CFL Integral Ballast	0.0390	195 Watts Incandescent Lamp	0.1950	$6.75
40 Watt Pin Based CFL Electronic Ballast	0.0423	120 Watts Incandescent Lamp	0.1200	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
40 Watt Pin Based CFL Electronic Ballast	0.0423	125 Watts Incandescent Lamp	0.1250	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	130 Watts Incandescent Lamp	0.1300	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	135 Watts Incandescent Lamp	0.1350	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	140 Watts Incandescent Lamp	0.1400	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	145 Watts Incandescent Lamp	0.1450	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	150 Watts Incandescent Lamp	0.1500	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	155 Watts Incandescent Lamp	0.1550	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	160 Watts Incandescent Lamp	0.1600	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	165 Watts Incandescent Lamp	0.1650	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	170 Watts Incandescent Lamp	0.1700	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	175 Watts Incandescent Lamp	0.1750	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	180 Watts Incandescent Lamp	0.1800	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	185 Watts Incandescent Lamp	0.1850	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	190 Watts Incandescent Lamp	0.1900	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	195 Watts Incandescent Lamp	0.1950	$102.62
40 Watt Pin Based CFL Electronic Ballast	0.0423	200 Watts Incandescent Lamp	0.2000	$102.62
40 Watt Pin Based CFL Magnetic Ballast	0.0522	120 Watts Incandescent Lamp	0.1200	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	125 Watts Incandescent Lamp	0.1250	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	130 Watts Incandescent Lamp	0.1300	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	135 Watts Incandescent Lamp	0.1350	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	140 Watts Incandescent Lamp	0.1400	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	145 Watts Incandescent Lamp	0.1450	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	150 Watts Incandescent Lamp	0.1500	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	155 Watts Incandescent Lamp	0.1550	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	160 Watts Incandescent Lamp	0.1600	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	165 Watts Incandescent Lamp	0.1650	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	170 Watts Incandescent Lamp	0.1700	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	175 Watts Incandescent Lamp	0.1750	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	180 Watts Incandescent Lamp	0.1800	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	185 Watts Incandescent Lamp	0.1850	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	190 Watts Incandescent Lamp	0.1900	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	195 Watts Incandescent Lamp	0.1950	$112.24
40 Watt Pin Based CFL Magnetic Ballast	0.0522	200 Watts Incandescent Lamp	0.2000	$112.24
40 Watt Screw In CFL Integral Ballast	0.0400	120 Watts Incandescent Lamp	0.1200	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	125 Watts Incandescent Lamp	0.1250	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	130 Watts Incandescent Lamp	0.1300	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	135 Watts Incandescent Lamp	0.1350	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	140 Watts Incandescent Lamp	0.1400	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	145 Watts Incandescent Lamp	0.1450	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	150 Watts Incandescent Lamp	0.1500	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	155 Watts Incandescent Lamp	0.1550	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	160 Watts Incandescent Lamp	0.1600	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	165 Watts Incandescent Lamp	0.1650	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	170 Watts Incandescent Lamp	0.1700	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	175 Watts Incandescent Lamp	0.1750	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	180 Watts Incandescent Lamp	0.1800	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	185 Watts Incandescent Lamp	0.1850	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	190 Watts Incandescent Lamp	0.1900	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
40 Watt Screw In CFL Integral Ballast	0.0400	195 Watts Incandescent Lamp	0.1950	$6.75
40 Watt Screw In CFL Integral Ballast	0.0400	200 Watts Incandescent Lamp	0.2000	$6.75
400W Metal Halide, magnetic ballast	0.4560	Mercury Vapor, 1000W, magnetic ballast	1.0800	$253.00
400W Metal Halide, magnetic ballast	0.4560	High Pressure Sodium, 1000W lamp	1.1000	$253.00
41 Watt Pin Based CFL Electronic Ballast	0.0434	120 Watts Incandescent Lamp	0.1200	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	125 Watts Incandescent Lamp	0.1250	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	130 Watts Incandescent Lamp	0.1300	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	135 Watts Incandescent Lamp	0.1350	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	140 Watts Incandescent Lamp	0.1400	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	145 Watts Incandescent Lamp	0.1450	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	150 Watts Incandescent Lamp	0.1500	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	155 Watts Incandescent Lamp	0.1550	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	160 Watts Incandescent Lamp	0.1600	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	165 Watts Incandescent Lamp	0.1650	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	170 Watts Incandescent Lamp	0.1700	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	175 Watts Incandescent Lamp	0.1750	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	180 Watts Incandescent Lamp	0.1800	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	185 Watts Incandescent Lamp	0.1850	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	190 Watts Incandescent Lamp	0.1900	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	195 Watts Incandescent Lamp	0.1950	$102.62
41 Watt Pin Based CFL Electronic Ballast	0.0434	200 Watts Incandescent Lamp	0.2000	$102.62
41 Watt Pin Based CFL Magnetic Ballast	0.0535	120 Watts Incandescent Lamp	0.1200	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	125 Watts Incandescent Lamp	0.1250	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	130 Watts Incandescent Lamp	0.1300	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	135 Watts Incandescent Lamp	0.1350	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	140 Watts Incandescent Lamp	0.1400	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	145 Watts Incandescent Lamp	0.1450	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	150 Watts Incandescent Lamp	0.1500	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	155 Watts Incandescent Lamp	0.1550	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	160 Watts Incandescent Lamp	0.1600	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	165 Watts Incandescent Lamp	0.1650	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	170 Watts Incandescent Lamp	0.1700	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	175 Watts Incandescent Lamp	0.1750	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	180 Watts Incandescent Lamp	0.1800	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	185 Watts Incandescent Lamp	0.1850	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	190 Watts Incandescent Lamp	0.1900	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	195 Watts Incandescent Lamp	0.1950	$112.24
41 Watt Pin Based CFL Magnetic Ballast	0.0535	200 Watts Incandescent Lamp	0.2000	$112.24
41 Watt Screw In CFL Integral Ballast	0.0410	120 Watts Incandescent Lamp	0.1200	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	125 Watts Incandescent Lamp	0.1250	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	130 Watts Incandescent Lamp	0.1300	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	135 Watts Incandescent Lamp	0.1350	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	140 Watts Incandescent Lamp	0.1400	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	145 Watts Incandescent Lamp	0.1450	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	150 Watts Incandescent Lamp	0.1500	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	155 Watts Incandescent Lamp	0.1550	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	160 Watts Incandescent Lamp	0.1600	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	165 Watts Incandescent Lamp	0.1650	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
41 Watt Screw In CFL Integral Ballast	0.0410	170 Watts Incandescent Lamp	0.1700	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	175 Watts Incandescent Lamp	0.1750	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	180 Watts Incandescent Lamp	0.1800	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	185 Watts Incandescent Lamp	0.1850	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	190 Watts Incandescent Lamp	0.1900	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	195 Watts Incandescent Lamp	0.1950	$6.75
41 Watt Screw In CFL Integral Ballast	0.0410	200 Watts Incandescent Lamp	0.2000	$6.75
42 Watt Pin Based CFL Electronic Ballast	0.0444	125 Watts Incandescent Lamp	0.1250	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	130 Watts Incandescent Lamp	0.1300	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	135 Watts Incandescent Lamp	0.1350	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	140 Watts Incandescent Lamp	0.1400	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	145 Watts Incandescent Lamp	0.1450	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	150 Watts Incandescent Lamp	0.1500	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	155 Watts Incandescent Lamp	0.1550	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	160 Watts Incandescent Lamp	0.1600	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	165 Watts Incandescent Lamp	0.1650	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	170 Watts Incandescent Lamp	0.1700	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	175 Watts Incandescent Lamp	0.1750	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	180 Watts Incandescent Lamp	0.1800	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	185 Watts Incandescent Lamp	0.1850	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	190 Watts Incandescent Lamp	0.1900	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	195 Watts Incandescent Lamp	0.1950	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	200 Watts Incandescent Lamp	0.2000	$102.62
42 Watt Pin Based CFL Electronic Ballast	0.0444	250 Watts Incandescent Lamp	0.2500	$102.62
42 Watt Pin Based CFL Magnetic Ballast	0.0549	125 Watts Incandescent Lamp	0.1250	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	130 Watts Incandescent Lamp	0.1300	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	135 Watts Incandescent Lamp	0.1350	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	140 Watts Incandescent Lamp	0.1400	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	145 Watts Incandescent Lamp	0.1450	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	150 Watts Incandescent Lamp	0.1500	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	155 Watts Incandescent Lamp	0.1550	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	160 Watts Incandescent Lamp	0.1600	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	165 Watts Incandescent Lamp	0.1650	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	170 Watts Incandescent Lamp	0.1700	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	175 Watts Incandescent Lamp	0.1750	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	180 Watts Incandescent Lamp	0.1800	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	185 Watts Incandescent Lamp	0.1850	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	190 Watts Incandescent Lamp	0.1900	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	195 Watts Incandescent Lamp	0.1950	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	200 Watts Incandescent Lamp	0.2000	$112.24
42 Watt Pin Based CFL Magnetic Ballast	0.0549	250 Watts Incandescent Lamp	0.2500	$112.24
42 Watt Screw In CFL Integral Ballast	0.0420	125 Watts Incandescent Lamp	0.1250	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	130 Watts Incandescent Lamp	0.1300	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	135 Watts Incandescent Lamp	0.1350	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	140 Watts Incandescent Lamp	0.1400	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	145 Watts Incandescent Lamp	0.1450	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	150 Watts Incandescent Lamp	0.1500	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	155 Watts Incandescent Lamp	0.1550	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
42 Watt Screw In CFL Integral Ballast	0.0420	160 Watts Incandescent Lamp	0.1600	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	165 Watts Incandescent Lamp	0.1650	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	170 Watts Incandescent Lamp	0.1700	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	175 Watts Incandescent Lamp	0.1750	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	180 Watts Incandescent Lamp	0.1800	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	185 Watts Incandescent Lamp	0.1850	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	190 Watts Incandescent Lamp	0.1900	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	195 Watts Incandescent Lamp	0.1950	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	200 Watts Incandescent Lamp	0.2000	$6.75
42 Watt Screw In CFL Integral Ballast	0.0420	250 Watts Incandescent Lamp	0.2500	$6.75
43 Watt Pin Based CFL Electronic Ballast	0.0455	125 Watts Incandescent Lamp	0.1250	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	130 Watts Incandescent Lamp	0.1300	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	135 Watts Incandescent Lamp	0.1350	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	140 Watts Incandescent Lamp	0.1400	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	145 Watts Incandescent Lamp	0.1450	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	150 Watts Incandescent Lamp	0.1500	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	155 Watts Incandescent Lamp	0.1550	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	160 Watts Incandescent Lamp	0.1600	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	165 Watts Incandescent Lamp	0.1650	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	170 Watts Incandescent Lamp	0.1700	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	175 Watts Incandescent Lamp	0.1750	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	180 Watts Incandescent Lamp	0.1800	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	185 Watts Incandescent Lamp	0.1850	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	190 Watts Incandescent Lamp	0.1900	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	195 Watts Incandescent Lamp	0.1950	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	200 Watts Incandescent Lamp	0.2000	$102.62
43 Watt Pin Based CFL Electronic Ballast	0.0455	250 Watts Incandescent Lamp	0.2500	$102.62
43 Watt Pin Based CFL Magnetic Ballast	0.0562	125 Watts Incandescent Lamp	0.1250	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	130 Watts Incandescent Lamp	0.1300	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	135 Watts Incandescent Lamp	0.1350	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	140 Watts Incandescent Lamp	0.1400	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	145 Watts Incandescent Lamp	0.1450	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	150 Watts Incandescent Lamp	0.1500	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	155 Watts Incandescent Lamp	0.1550	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	160 Watts Incandescent Lamp	0.1600	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	165 Watts Incandescent Lamp	0.1650	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	170 Watts Incandescent Lamp	0.1700	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	175 Watts Incandescent Lamp	0.1750	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	180 Watts Incandescent Lamp	0.1800	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	185 Watts Incandescent Lamp	0.1850	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	190 Watts Incandescent Lamp	0.1900	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	195 Watts Incandescent Lamp	0.1950	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	200 Watts Incandescent Lamp	0.2000	$112.24
43 Watt Pin Based CFL Magnetic Ballast	0.0562	250 Watts Incandescent Lamp	0.2500	$112.24
43 Watt Screw In CFL Integral Ballast	0.0430	125 Watts Incandescent Lamp	0.1250	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	130 Watts Incandescent Lamp	0.1300	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	135 Watts Incandescent Lamp	0.1350	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	140 Watts Incandescent Lamp	0.1400	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
43 Watt Screw In CFL Integral Ballast	0.0430	145 Watts Incandescent Lamp	0.1450	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	150 Watts Incandescent Lamp	0.1500	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	155 Watts Incandescent Lamp	0.1550	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	160 Watts Incandescent Lamp	0.1600	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	165 Watts Incandescent Lamp	0.1650	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	170 Watts Incandescent Lamp	0.1700	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	175 Watts Incandescent Lamp	0.1750	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	180 Watts Incandescent Lamp	0.1800	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	185 Watts Incandescent Lamp	0.1850	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	190 Watts Incandescent Lamp	0.1900	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	195 Watts Incandescent Lamp	0.1950	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	200 Watts Incandescent Lamp	0.2000	$6.75
43 Watt Screw In CFL Integral Ballast	0.0430	250 Watts Incandescent Lamp	0.2500	$6.75
44 Watt Pin Based CFL Electronic Ballast	0.0466	130 Watts Incandescent Lamp	0.1300	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	135 Watts Incandescent Lamp	0.1350	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	140 Watts Incandescent Lamp	0.1400	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	145 Watts Incandescent Lamp	0.1450	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	150 Watts Incandescent Lamp	0.1500	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	155 Watts Incandescent Lamp	0.1550	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	160 Watts Incandescent Lamp	0.1600	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	165 Watts Incandescent Lamp	0.1650	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	170 Watts Incandescent Lamp	0.1700	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	175 Watts Incandescent Lamp	0.1750	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	180 Watts Incandescent Lamp	0.1800	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	185 Watts Incandescent Lamp	0.1850	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	190 Watts Incandescent Lamp	0.1900	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	195 Watts Incandescent Lamp	0.1950	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	200 Watts Incandescent Lamp	0.2000	$102.62
44 Watt Pin Based CFL Electronic Ballast	0.0466	250 Watts Incandescent Lamp	0.2500	$102.62
44 Watt Pin Based CFL Magnetic Ballast	0.0575	130 Watts Incandescent Lamp	0.1300	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	135 Watts Incandescent Lamp	0.1350	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	140 Watts Incandescent Lamp	0.1400	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	145 Watts Incandescent Lamp	0.1450	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	150 Watts Incandescent Lamp	0.1500	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	155 Watts Incandescent Lamp	0.1550	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	160 Watts Incandescent Lamp	0.1600	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	165 Watts Incandescent Lamp	0.1650	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	170 Watts Incandescent Lamp	0.1700	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	175 Watts Incandescent Lamp	0.1750	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	180 Watts Incandescent Lamp	0.1800	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	185 Watts Incandescent Lamp	0.1850	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	190 Watts Incandescent Lamp	0.1900	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	195 Watts Incandescent Lamp	0.1950	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	200 Watts Incandescent Lamp	0.2000	$112.24
44 Watt Pin Based CFL Magnetic Ballast	0.0575	250 Watts Incandescent Lamp	0.2500	$112.24
44 Watt Screw In CFL Integral Ballast	0.0440	130 Watts Incandescent Lamp	0.1300	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	135 Watts Incandescent Lamp	0.1350	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	140 Watts Incandescent Lamp	0.1400	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
44 Watt Screw In CFL Integral Ballast	0.0440	145 Watts Incandescent Lamp	0.1450	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	150 Watts Incandescent Lamp	0.1500	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	155 Watts Incandescent Lamp	0.1550	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	160 Watts Incandescent Lamp	0.1600	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	165 Watts Incandescent Lamp	0.1650	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	170 Watts Incandescent Lamp	0.1700	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	175 Watts Incandescent Lamp	0.1750	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	180 Watts Incandescent Lamp	0.1800	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	185 Watts Incandescent Lamp	0.1850	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	190 Watts Incandescent Lamp	0.1900	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	195 Watts Incandescent Lamp	0.1950	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	200 Watts Incandescent Lamp	0.2000	$6.75
44 Watt Screw In CFL Integral Ballast	0.0440	250 Watts Incandescent Lamp	0.2500	$6.75
45 Watt Pin Based CFL Electronic Ballast	0.0476	135 Watts Incandescent Lamp	0.1350	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	140 Watts Incandescent Lamp	0.1400	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	145 Watts Incandescent Lamp	0.1450	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	150 Watts Incandescent Lamp	0.1500	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	155 Watts Incandescent Lamp	0.1550	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	160 Watts Incandescent Lamp	0.1600	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	165 Watts Incandescent Lamp	0.1650	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	170 Watts Incandescent Lamp	0.1700	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	175 Watts Incandescent Lamp	0.1750	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	180 Watts Incandescent Lamp	0.1800	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	185 Watts Incandescent Lamp	0.1850	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	190 Watts Incandescent Lamp	0.1900	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	195 Watts Incandescent Lamp	0.1950	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	200 Watts Incandescent Lamp	0.2000	$102.62
45 Watt Pin Based CFL Electronic Ballast	0.0476	250 Watts Incandescent Lamp	0.2500	$102.62
45 Watt Pin Based CFL Magnetic Ballast	0.0588	135 Watts Incandescent Lamp	0.1350	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	140 Watts Incandescent Lamp	0.1400	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	145 Watts Incandescent Lamp	0.1450	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	150 Watts Incandescent Lamp	0.1500	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	155 Watts Incandescent Lamp	0.1550	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	160 Watts Incandescent Lamp	0.1600	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	165 Watts Incandescent Lamp	0.1650	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	170 Watts Incandescent Lamp	0.1700	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	175 Watts Incandescent Lamp	0.1750	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	180 Watts Incandescent Lamp	0.1800	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	185 Watts Incandescent Lamp	0.1850	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	190 Watts Incandescent Lamp	0.1900	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	195 Watts Incandescent Lamp	0.1950	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	200 Watts Incandescent Lamp	0.2000	$112.24
45 Watt Pin Based CFL Magnetic Ballast	0.0588	250 Watts Incandescent Lamp	0.2500	$112.24
45 Watt Screw In CFL Integral Ballast	0.0450	135 Watts Incandescent Lamp	0.1350	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	140 Watts Incandescent Lamp	0.1400	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	145 Watts Incandescent Lamp	0.1450	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	150 Watts Incandescent Lamp	0.1500	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	155 Watts Incandescent Lamp	0.1550	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
45 Watt Screw In CFL Integral Ballast	0.0450	160 Watts Incandescent Lamp	0.1600	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	165 Watts Incandescent Lamp	0.1650	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	170 Watts Incandescent Lamp	0.1700	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	175 Watts Incandescent Lamp	0.1750	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	180 Watts Incandescent Lamp	0.1800	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	185 Watts Incandescent Lamp	0.1850	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	190 Watts Incandescent Lamp	0.1900	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	195 Watts Incandescent Lamp	0.1950	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	200 Watts Incandescent Lamp	0.2000	$6.75
45 Watt Screw In CFL Integral Ballast	0.0450	250 Watts Incandescent Lamp	0.2500	$6.75
46 Watt Pin Based CFL Electronic Ballast	0.0487	135 Watts Incandescent Lamp	0.1350	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	140 Watts Incandescent Lamp	0.1400	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	145 Watts Incandescent Lamp	0.1450	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	150 Watts Incandescent Lamp	0.1500	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	155 Watts Incandescent Lamp	0.1550	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	160 Watts Incandescent Lamp	0.1600	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	165 Watts Incandescent Lamp	0.1650	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	170 Watts Incandescent Lamp	0.1700	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	175 Watts Incandescent Lamp	0.1750	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	180 Watts Incandescent Lamp	0.1800	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	185 Watts Incandescent Lamp	0.1850	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	190 Watts Incandescent Lamp	0.1900	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	195 Watts Incandescent Lamp	0.1950	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	200 Watts Incandescent Lamp	0.2000	$102.62
46 Watt Pin Based CFL Electronic Ballast	0.0487	250 Watts Incandescent Lamp	0.2500	$102.62
46 Watt Pin Based CFL Magnetic Ballast	0.0601	135 Watts Incandescent Lamp	0.1350	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	140 Watts Incandescent Lamp	0.1400	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	145 Watts Incandescent Lamp	0.1450	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	150 Watts Incandescent Lamp	0.1500	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	155 Watts Incandescent Lamp	0.1550	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	160 Watts Incandescent Lamp	0.1600	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	165 Watts Incandescent Lamp	0.1650	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	170 Watts Incandescent Lamp	0.1700	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	175 Watts Incandescent Lamp	0.1750	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	180 Watts Incandescent Lamp	0.1800	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	185 Watts Incandescent Lamp	0.1850	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	190 Watts Incandescent Lamp	0.1900	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	195 Watts Incandescent Lamp	0.1950	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	200 Watts Incandescent Lamp	0.2000	$112.24
46 Watt Pin Based CFL Magnetic Ballast	0.0601	250 Watts Incandescent Lamp	0.2500	$112.24
46 Watt Screw In CFL Integral Ballast	0.0460	135 Watts Incandescent Lamp	0.1350	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	140 Watts Incandescent Lamp	0.1400	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	145 Watts Incandescent Lamp	0.1450	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	150 Watts Incandescent Lamp	0.1500	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	155 Watts Incandescent Lamp	0.1550	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	160 Watts Incandescent Lamp	0.1600	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	165 Watts Incandescent Lamp	0.1650	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	170 Watts Incandescent Lamp	0.1700	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
46 Watt Screw In CFL Integral Ballast	0.0460	175 Watts Incandescent Lamp	0.1750	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	180 Watts Incandescent Lamp	0.1800	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	185 Watts Incandescent Lamp	0.1850	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	190 Watts Incandescent Lamp	0.1900	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	195 Watts Incandescent Lamp	0.1950	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	200 Watts Incandescent Lamp	0.2000	$6.75
46 Watt Screw In CFL Integral Ballast	0.0460	250 Watts Incandescent Lamp	0.2500	$6.75
47 Watt Pin Based CFL Electronic Ballast	0.0497	140 Watts Incandescent Lamp	0.1400	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	145 Watts Incandescent Lamp	0.1450	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	150 Watts Incandescent Lamp	0.1500	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	155 Watts Incandescent Lamp	0.1550	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	160 Watts Incandescent Lamp	0.1600	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	165 Watts Incandescent Lamp	0.1650	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	170 Watts Incandescent Lamp	0.1700	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	175 Watts Incandescent Lamp	0.1750	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	180 Watts Incandescent Lamp	0.1800	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	185 Watts Incandescent Lamp	0.1850	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	190 Watts Incandescent Lamp	0.1900	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	195 Watts Incandescent Lamp	0.1950	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	200 Watts Incandescent Lamp	0.2000	$102.62
47 Watt Pin Based CFL Electronic Ballast	0.0497	250 Watts Incandescent Lamp	0.2500	$102.62
47 Watt Pin Based CFL Magnetic Ballast	0.0614	140 Watts Incandescent Lamp	0.1400	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	145 Watts Incandescent Lamp	0.1450	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	150 Watts Incandescent Lamp	0.1500	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	155 Watts Incandescent Lamp	0.1550	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	160 Watts Incandescent Lamp	0.1600	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	165 Watts Incandescent Lamp	0.1650	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	170 Watts Incandescent Lamp	0.1700	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	175 Watts Incandescent Lamp	0.1750	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	180 Watts Incandescent Lamp	0.1800	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	185 Watts Incandescent Lamp	0.1850	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	190 Watts Incandescent Lamp	0.1900	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	195 Watts Incandescent Lamp	0.1950	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	200 Watts Incandescent Lamp	0.2000	$112.24
47 Watt Pin Based CFL Magnetic Ballast	0.0614	250 Watts Incandescent Lamp	0.2500	$112.24
47 Watt Screw In CFL Integral Ballast	0.0470	140 Watts Incandescent Lamp	0.1400	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	145 Watts Incandescent Lamp	0.1450	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	150 Watts Incandescent Lamp	0.1500	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	155 Watts Incandescent Lamp	0.1550	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	160 Watts Incandescent Lamp	0.1600	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	165 Watts Incandescent Lamp	0.1650	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	170 Watts Incandescent Lamp	0.1700	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	175 Watts Incandescent Lamp	0.1750	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	180 Watts Incandescent Lamp	0.1800	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	185 Watts Incandescent Lamp	0.1850	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	190 Watts Incandescent Lamp	0.1900	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	195 Watts Incandescent Lamp	0.1950	$6.75
47 Watt Screw In CFL Integral Ballast	0.0470	200 Watts Incandescent Lamp	0.2000	$6.75

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
47 Watt Screw In CFL Integral Ballast	0.0470	250 Watts Incandescent Lamp	0.2500	$6.75
48 Watt Pin Based CFL Electronic Ballast	0.0508	145 Watts Incandescent Lamp	0.1450	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	150 Watts Incandescent Lamp	0.1500	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	155 Watts Incandescent Lamp	0.1550	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	160 Watts Incandescent Lamp	0.1600	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	165 Watts Incandescent Lamp	0.1650	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	170 Watts Incandescent Lamp	0.1700	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	175 Watts Incandescent Lamp	0.1750	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	180 Watts Incandescent Lamp	0.1800	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	185 Watts Incandescent Lamp	0.1850	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	190 Watts Incandescent Lamp	0.1900	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	195 Watts Incandescent Lamp	0.1950	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	200 Watts Incandescent Lamp	0.2000	$102.62
48 Watt Pin Based CFL Electronic Ballast	0.0508	250 Watts Incandescent Lamp	0.2500	$102.62
48 Watt Pin Based CFL Magnetic Ballast	0.0627	145 Watts Incandescent Lamp	0.1450	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	150 Watts Incandescent Lamp	0.1500	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	155 Watts Incandescent Lamp	0.1550	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	160 Watts Incandescent Lamp	0.1600	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	165 Watts Incandescent Lamp	0.1650	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	170 Watts Incandescent Lamp	0.1700	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	175 Watts Incandescent Lamp	0.1750	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	180 Watts Incandescent Lamp	0.1800	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	185 Watts Incandescent Lamp	0.1850	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	190 Watts Incandescent Lamp	0.1900	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	195 Watts Incandescent Lamp	0.1950	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	200 Watts Incandescent Lamp	0.2000	$112.24
48 Watt Pin Based CFL Magnetic Ballast	0.0627	250 Watts Incandescent Lamp	0.2500	$112.24
48 Watt Screw In CFL Integral Ballast	0.0480	145 Watts Incandescent Lamp	0.1450	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	150 Watts Incandescent Lamp	0.1500	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	155 Watts Incandescent Lamp	0.1550	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	160 Watts Incandescent Lamp	0.1600	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	165 Watts Incandescent Lamp	0.1650	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	170 Watts Incandescent Lamp	0.1700	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	175 Watts Incandescent Lamp	0.1750	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	180 Watts Incandescent Lamp	0.1800	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	185 Watts Incandescent Lamp	0.1850	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	190 Watts Incandescent Lamp	0.1900	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	195 Watts Incandescent Lamp	0.1950	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	200 Watts Incandescent Lamp	0.2000	$6.75
48 Watt Screw In CFL Integral Ballast	0.0480	250 Watts Incandescent Lamp	0.2500	$6.75
49 Watt Pin Based CFL Electronic Ballast	0.0518	145 Watts Incandescent Lamp	0.1450	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	150 Watts Incandescent Lamp	0.1500	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	155 Watts Incandescent Lamp	0.1550	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	160 Watts Incandescent Lamp	0.1600	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	165 Watts Incandescent Lamp	0.1650	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	170 Watts Incandescent Lamp	0.1700	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	175 Watts Incandescent Lamp	0.1750	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	180 Watts Incandescent Lamp	0.1800	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
49 Watt Pin Based CFL Electronic Ballast	0.0518	185 Watts Incandescent Lamp	0.1850	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	190 Watts Incandescent Lamp	0.1900	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	195 Watts Incandescent Lamp	0.1950	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	200 Watts Incandescent Lamp	0.2000	$102.62
49 Watt Pin Based CFL Electronic Ballast	0.0518	250 Watts Incandescent Lamp	0.2500	$102.62
49 Watt Pin Based CFL Magnetic Ballast	0.0640	145 Watts Incandescent Lamp	0.1450	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	150 Watts Incandescent Lamp	0.1500	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	155 Watts Incandescent Lamp	0.1550	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	160 Watts Incandescent Lamp	0.1600	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	165 Watts Incandescent Lamp	0.1650	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	170 Watts Incandescent Lamp	0.1700	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	175 Watts Incandescent Lamp	0.1750	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	180 Watts Incandescent Lamp	0.1800	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	185 Watts Incandescent Lamp	0.1850	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	190 Watts Incandescent Lamp	0.1900	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	195 Watts Incandescent Lamp	0.1950	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	200 Watts Incandescent Lamp	0.2000	$112.24
49 Watt Pin Based CFL Magnetic Ballast	0.0640	250 Watts Incandescent Lamp	0.2500	$112.24
49 Watt Screw In CFL Integral Ballast	0.0490	145 Watts Incandescent Lamp	0.1450	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	150 Watts Incandescent Lamp	0.1500	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	155 Watts Incandescent Lamp	0.1550	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	160 Watts Incandescent Lamp	0.1600	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	165 Watts Incandescent Lamp	0.1650	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	170 Watts Incandescent Lamp	0.1700	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	175 Watts Incandescent Lamp	0.1750	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	180 Watts Incandescent Lamp	0.1800	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	185 Watts Incandescent Lamp	0.1850	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	190 Watts Incandescent Lamp	0.1900	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	195 Watts Incandescent Lamp	0.1950	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	200 Watts Incandescent Lamp	0.2000	$16.00
49 Watt Screw In CFL Integral Ballast	0.0490	250 Watts Incandescent Lamp	0.2500	$16.00
50 Watt Pin Based CFL Electronic Ballast	0.0529	150 Watts Incandescent Lamp	0.1500	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	155 Watts Incandescent Lamp	0.1550	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	160 Watts Incandescent Lamp	0.1600	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	165 Watts Incandescent Lamp	0.1650	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	170 Watts Incandescent Lamp	0.1700	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	175 Watts Incandescent Lamp	0.1750	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	180 Watts Incandescent Lamp	0.1800	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	185 Watts Incandescent Lamp	0.1850	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	190 Watts Incandescent Lamp	0.1900	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	195 Watts Incandescent Lamp	0.1950	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	200 Watts Incandescent Lamp	0.2000	$102.62
50 Watt Pin Based CFL Electronic Ballast	0.0529	250 Watts Incandescent Lamp	0.2500	$102.62
50 Watt Pin Based CFL Magnetic Ballast	0.0653	150 Watts Incandescent Lamp	0.1500	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	155 Watts Incandescent Lamp	0.1550	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	160 Watts Incandescent Lamp	0.1600	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	165 Watts Incandescent Lamp	0.1650	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	170 Watts Incandescent Lamp	0.1700	$112.24

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
50 Watt Pin Based CFL Magnetic Ballast	0.0653	175 Watts Incandescent Lamp	0.1750	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	180 Watts Incandescent Lamp	0.1800	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	185 Watts Incandescent Lamp	0.1850	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	190 Watts Incandescent Lamp	0.1900	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	195 Watts Incandescent Lamp	0.1950	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	200 Watts Incandescent Lamp	0.2000	$112.24
50 Watt Pin Based CFL Magnetic Ballast	0.0653	250 Watts Incandescent Lamp	0.2500	$112.24
50 Watt Screw In CFL Integral Ballast	0.0500	150 Watts Incandescent Lamp	0.1500	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	155 Watts Incandescent Lamp	0.1550	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	160 Watts Incandescent Lamp	0.1600	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	165 Watts Incandescent Lamp	0.1650	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	170 Watts Incandescent Lamp	0.1700	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	175 Watts Incandescent Lamp	0.1750	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	180 Watts Incandescent Lamp	0.1800	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	185 Watts Incandescent Lamp	0.1850	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	190 Watts Incandescent Lamp	0.1900	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	195 Watts Incandescent Lamp	0.1950	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	200 Watts Incandescent Lamp	0.2000	$16.00
50 Watt Screw In CFL Integral Ballast	0.0500	250 Watts Incandescent Lamp	0.2500	$16.00
51 Watt Pin Based CFL Electronic Ballast	0.0540	150 Watts Incandescent Lamp	0.1500	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	155 Watts Incandescent Lamp	0.1550	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	160 Watts Incandescent Lamp	0.1600	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	165 Watts Incandescent Lamp	0.1650	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	170 Watts Incandescent Lamp	0.1700	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	175 Watts Incandescent Lamp	0.1750	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	180 Watts Incandescent Lamp	0.1800	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	185 Watts Incandescent Lamp	0.1850	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	190 Watts Incandescent Lamp	0.1900	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	195 Watts Incandescent Lamp	0.1950	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	200 Watts Incandescent Lamp	0.2000	$102.62
51 Watt Pin Based CFL Electronic Ballast	0.0540	250 Watts Incandescent Lamp	0.2500	$102.62
51 Watt Pin Based CFL Magnetic Ballast	0.0666	150 Watts Incandescent Lamp	0.1500	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	155 Watts Incandescent Lamp	0.1550	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	160 Watts Incandescent Lamp	0.1600	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	165 Watts Incandescent Lamp	0.1650	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	170 Watts Incandescent Lamp	0.1700	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	175 Watts Incandescent Lamp	0.1750	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	180 Watts Incandescent Lamp	0.1800	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	185 Watts Incandescent Lamp	0.1850	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	190 Watts Incandescent Lamp	0.1900	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	195 Watts Incandescent Lamp	0.1950	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	200 Watts Incandescent Lamp	0.2000	$112.24
51 Watt Pin Based CFL Magnetic Ballast	0.0666	250 Watts Incandescent Lamp	0.2500	$112.24
51 Watt Screw In CFL Integral Ballast	0.0510	150 Watts Incandescent Lamp	0.1500	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	155 Watts Incandescent Lamp	0.1550	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	160 Watts Incandescent Lamp	0.1600	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	165 Watts Incandescent Lamp	0.1650	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	170 Watts Incandescent Lamp	0.1700	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
51 Watt Screw In CFL Integral Ballast	0.0510	175 Watts Incandescent Lamp	0.1750	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	180 Watts Incandescent Lamp	0.1800	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	185 Watts Incandescent Lamp	0.1850	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	190 Watts Incandescent Lamp	0.1900	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	195 Watts Incandescent Lamp	0.1950	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	200 Watts Incandescent Lamp	0.2000	$16.00
51 Watt Screw In CFL Integral Ballast	0.0510	250 Watts Incandescent Lamp	0.2500	$16.00
52 Watt Pin Based CFL Electronic Ballast	0.0550	150 Watts Incandescent Lamp	0.1500	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	155 Watts Incandescent Lamp	0.1550	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	160 Watts Incandescent Lamp	0.1600	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	165 Watts Incandescent Lamp	0.1650	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	170 Watts Incandescent Lamp	0.1700	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	175 Watts Incandescent Lamp	0.1750	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	180 Watts Incandescent Lamp	0.1800	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	185 Watts Incandescent Lamp	0.1850	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	190 Watts Incandescent Lamp	0.1900	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	195 Watts Incandescent Lamp	0.1950	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	200 Watts Incandescent Lamp	0.2000	$102.62
52 Watt Pin Based CFL Electronic Ballast	0.0550	250 Watts Incandescent Lamp	0.2500	$102.62
52 Watt Pin Based CFL Magnetic Ballast	0.0679	150 Watts Incandescent Lamp	0.1500	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	155 Watts Incandescent Lamp	0.1550	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	160 Watts Incandescent Lamp	0.1600	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	165 Watts Incandescent Lamp	0.1650	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	170 Watts Incandescent Lamp	0.1700	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	175 Watts Incandescent Lamp	0.1750	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	180 Watts Incandescent Lamp	0.1800	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	185 Watts Incandescent Lamp	0.1850	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	190 Watts Incandescent Lamp	0.1900	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	195 Watts Incandescent Lamp	0.1950	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	200 Watts Incandescent Lamp	0.2000	$112.24
52 Watt Pin Based CFL Magnetic Ballast	0.0679	250 Watts Incandescent Lamp	0.2500	$112.24
52 Watt Screw In CFL Integral Ballast	0.0520	150 Watts Incandescent Lamp	0.1500	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	155 Watts Incandescent Lamp	0.1550	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	160 Watts Incandescent Lamp	0.1600	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	165 Watts Incandescent Lamp	0.1650	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	170 Watts Incandescent Lamp	0.1700	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	175 Watts Incandescent Lamp	0.1750	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	180 Watts Incandescent Lamp	0.1800	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	185 Watts Incandescent Lamp	0.1850	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	190 Watts Incandescent Lamp	0.1900	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	195 Watts Incandescent Lamp	0.1950	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	200 Watts Incandescent Lamp	0.2000	$16.00
52 Watt Screw In CFL Integral Ballast	0.0520	250 Watts Incandescent Lamp	0.2500	$16.00
53 Watt Pin Based CFL Electronic Ballast	0.0561	155 Watts Incandescent Lamp	0.1550	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	160 Watts Incandescent Lamp	0.1600	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	165 Watts Incandescent Lamp	0.1650	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	170 Watts Incandescent Lamp	0.1700	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	175 Watts Incandescent Lamp	0.1750	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
53 Watt Pin Based CFL Electronic Ballast	0.0561	180 Watts Incandescent Lamp	0.1800	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	185 Watts Incandescent Lamp	0.1850	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	190 Watts Incandescent Lamp	0.1900	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	195 Watts Incandescent Lamp	0.1950	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	200 Watts Incandescent Lamp	0.2000	$102.62
53 Watt Pin Based CFL Electronic Ballast	0.0561	250 Watts Incandescent Lamp	0.2500	$102.62
53 Watt Pin Based CFL Magnetic Ballast	0.0692	155 Watts Incandescent Lamp	0.1550	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	160 Watts Incandescent Lamp	0.1600	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	165 Watts Incandescent Lamp	0.1650	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	170 Watts Incandescent Lamp	0.1700	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	175 Watts Incandescent Lamp	0.1750	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	180 Watts Incandescent Lamp	0.1800	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	185 Watts Incandescent Lamp	0.1850	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	190 Watts Incandescent Lamp	0.1900	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	195 Watts Incandescent Lamp	0.1950	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	200 Watts Incandescent Lamp	0.2000	$112.24
53 Watt Pin Based CFL Magnetic Ballast	0.0692	250 Watts Incandescent Lamp	0.2500	$112.24
53 Watt Screw In CFL Integral Ballast	0.0530	155 Watts Incandescent Lamp	0.1550	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	160 Watts Incandescent Lamp	0.1600	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	165 Watts Incandescent Lamp	0.1650	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	170 Watts Incandescent Lamp	0.1700	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	175 Watts Incandescent Lamp	0.1750	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	180 Watts Incandescent Lamp	0.1800	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	185 Watts Incandescent Lamp	0.1850	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	190 Watts Incandescent Lamp	0.1900	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	195 Watts Incandescent Lamp	0.1950	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	200 Watts Incandescent Lamp	0.2000	$16.00
53 Watt Screw In CFL Integral Ballast	0.0530	250 Watts Incandescent Lamp	0.2500	$16.00
54 Watt Pin Based CFL Electronic Ballast	0.0571	160 Watts Incandescent Lamp	0.1600	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	165 Watts Incandescent Lamp	0.1650	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	170 Watts Incandescent Lamp	0.1700	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	175 Watts Incandescent Lamp	0.1750	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	180 Watts Incandescent Lamp	0.1800	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	185 Watts Incandescent Lamp	0.1850	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	190 Watts Incandescent Lamp	0.1900	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	195 Watts Incandescent Lamp	0.1950	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	200 Watts Incandescent Lamp	0.2000	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	250 Watts Incandescent Lamp	0.2500	$102.62
54 Watt Pin Based CFL Electronic Ballast	0.0571	300 Watts Incandescent Lamp	0.3000	$102.62
54 Watt Pin Based CFL Magnetic Ballast	0.0705	160 Watts Incandescent Lamp	0.1600	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	165 Watts Incandescent Lamp	0.1650	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	170 Watts Incandescent Lamp	0.1700	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	175 Watts Incandescent Lamp	0.1750	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	180 Watts Incandescent Lamp	0.1800	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	185 Watts Incandescent Lamp	0.1850	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	190 Watts Incandescent Lamp	0.1900	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	195 Watts Incandescent Lamp	0.1950	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	200 Watts Incandescent Lamp	0.2000	$112.24

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
54 Watt Pin Based CFL Magnetic Ballast	0.0705	250 Watts Incandescent Lamp	0.2500	$112.24
54 Watt Pin Based CFL Magnetic Ballast	0.0705	300 Watts Incandescent Lamp	0.3000	$112.24
54 Watt Screw In CFL Integral Ballast	0.0540	160 Watts Incandescent Lamp	0.1600	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	165 Watts Incandescent Lamp	0.1650	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	170 Watts Incandescent Lamp	0.1700	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	175 Watts Incandescent Lamp	0.1750	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	180 Watts Incandescent Lamp	0.1800	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	185 Watts Incandescent Lamp	0.1850	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	190 Watts Incandescent Lamp	0.1900	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	195 Watts Incandescent Lamp	0.1950	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	200 Watts Incandescent Lamp	0.2000	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	250 Watts Incandescent Lamp	0.2500	$16.00
54 Watt Screw In CFL Integral Ballast	0.0540	300 Watts Incandescent Lamp	0.3000	$16.00
55 Watt Pin Based CFL Electronic Ballast	0.0582	165 Watts Incandescent Lamp	0.1650	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	170 Watts Incandescent Lamp	0.1700	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	175 Watts Incandescent Lamp	0.1750	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	180 Watts Incandescent Lamp	0.1800	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	185 Watts Incandescent Lamp	0.1850	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	190 Watts Incandescent Lamp	0.1900	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	195 Watts Incandescent Lamp	0.1950	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	200 Watts Incandescent Lamp	0.2000	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	250 Watts Incandescent Lamp	0.2500	$102.62
55 Watt Pin Based CFL Electronic Ballast	0.0582	300 Watts Incandescent Lamp	0.3000	$102.62
55 Watt Pin Based CFL Magnetic Ballast	0.0718	165 Watts Incandescent Lamp	0.1650	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	170 Watts Incandescent Lamp	0.1700	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	175 Watts Incandescent Lamp	0.1750	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	180 Watts Incandescent Lamp	0.1800	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	185 Watts Incandescent Lamp	0.1850	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	190 Watts Incandescent Lamp	0.1900	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	195 Watts Incandescent Lamp	0.1950	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	200 Watts Incandescent Lamp	0.2000	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	250 Watts Incandescent Lamp	0.2500	$112.24
55 Watt Pin Based CFL Magnetic Ballast	0.0718	300 Watts Incandescent Lamp	0.3000	$112.24
55 Watt Screw In CFL Integral Ballast	0.0550	165 Watts Incandescent Lamp	0.1650	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	170 Watts Incandescent Lamp	0.1700	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	175 Watts Incandescent Lamp	0.1750	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	180 Watts Incandescent Lamp	0.1800	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	185 Watts Incandescent Lamp	0.1850	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	190 Watts Incandescent Lamp	0.1900	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	195 Watts Incandescent Lamp	0.1950	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	200 Watts Incandescent Lamp	0.2000	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	250 Watts Incandescent Lamp	0.2500	$16.00
55 Watt Screw In CFL Integral Ballast	0.0550	300 Watts Incandescent Lamp	0.3000	$16.00
56 Watt Pin Based CFL Electronic Ballast	0.0592	165 Watts Incandescent Lamp	0.1650	$102.62
56 Watt Pin Based CFL Electronic Ballast	0.0592	170 Watts Incandescent Lamp	0.1700	$102.62
56 Watt Pin Based CFL Electronic Ballast	0.0592	175 Watts Incandescent Lamp	0.1750	$102.62
56 Watt Pin Based CFL Electronic Ballast	0.0592	180 Watts Incandescent Lamp	0.1800	$102.62
56 Watt Pin Based CFL Electronic Ballast	0.0592	185 Watts Incandescent Lamp	0.1850	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
56 Watt Pin Based CFL Electronic Ballast	0.0592	190 Watts Incandescent Lamp	0.1900	$102.62
56 Watt Pin Based CFL Electronic Ballast	0.0592	195 Watts Incandescent Lamp	0.1950	$102.62
56 Watt Pin Based CFL Electronic Ballast	0.0592	200 Watts Incandescent Lamp	0.2000	$102.62
56 Watt Pin Based CFL Electronic Ballast	0.0592	250 Watts Incandescent Lamp	0.2500	$102.62
56 Watt Pin Based CFL Electronic Ballast	0.0592	300 Watts Incandescent Lamp	0.3000	$102.62
56 Watt Pin Based CFL Magnetic Ballast	0.0731	165 Watts Incandescent Lamp	0.1650	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	170 Watts Incandescent Lamp	0.1700	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	175 Watts Incandescent Lamp	0.1750	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	180 Watts Incandescent Lamp	0.1800	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	185 Watts Incandescent Lamp	0.1850	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	190 Watts Incandescent Lamp	0.1900	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	195 Watts Incandescent Lamp	0.1950	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	200 Watts Incandescent Lamp	0.2000	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	250 Watts Incandescent Lamp	0.2500	$112.24
56 Watt Pin Based CFL Magnetic Ballast	0.0731	300 Watts Incandescent Lamp	0.3000	$112.24
56 Watt Screw In CFL Integral Ballast	0.0560	165 Watts Incandescent Lamp	0.1650	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	170 Watts Incandescent Lamp	0.1700	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	175 Watts Incandescent Lamp	0.1750	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	180 Watts Incandescent Lamp	0.1800	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	185 Watts Incandescent Lamp	0.1850	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	190 Watts Incandescent Lamp	0.1900	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	195 Watts Incandescent Lamp	0.1950	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	200 Watts Incandescent Lamp	0.2000	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	250 Watts Incandescent Lamp	0.2500	$16.00
56 Watt Screw In CFL Integral Ballast	0.0560	300 Watts Incandescent Lamp	0.3000	$16.00
57 Watt Pin Based CFL Electronic Ballast	0.0603	170 Watts Incandescent Lamp	0.1700	$102.62
57 Watt Pin Based CFL Electronic Ballast	0.0603	175 Watts Incandescent Lamp	0.1750	$102.62
57 Watt Pin Based CFL Electronic Ballast	0.0603	180 Watts Incandescent Lamp	0.1800	$102.62
57 Watt Pin Based CFL Electronic Ballast	0.0603	185 Watts Incandescent Lamp	0.1850	$102.62
57 Watt Pin Based CFL Electronic Ballast	0.0603	190 Watts Incandescent Lamp	0.1900	$102.62
57 Watt Pin Based CFL Electronic Ballast	0.0603	195 Watts Incandescent Lamp	0.1950	$102.62
57 Watt Pin Based CFL Electronic Ballast	0.0603	200 Watts Incandescent Lamp	0.2000	$102.62
57 Watt Pin Based CFL Electronic Ballast	0.0603	250 Watts Incandescent Lamp	0.2500	$102.62
57 Watt Pin Based CFL Electronic Ballast	0.0603	300 Watts Incandescent Lamp	0.3000	$102.62
57 Watt Pin Based CFL Magnetic Ballast	0.0744	170 Watts Incandescent Lamp	0.1700	$112.24
57 Watt Pin Based CFL Magnetic Ballast	0.0744	175 Watts Incandescent Lamp	0.1750	$112.24
57 Watt Pin Based CFL Magnetic Ballast	0.0744	180 Watts Incandescent Lamp	0.1800	$112.24
57 Watt Pin Based CFL Magnetic Ballast	0.0744	185 Watts Incandescent Lamp	0.1850	$112.24
57 Watt Pin Based CFL Magnetic Ballast	0.0744	190 Watts Incandescent Lamp	0.1900	$112.24
57 Watt Pin Based CFL Magnetic Ballast	0.0744	195 Watts Incandescent Lamp	0.1950	$112.24
57 Watt Pin Based CFL Magnetic Ballast	0.0744	200 Watts Incandescent Lamp	0.2000	$112.24
57 Watt Pin Based CFL Magnetic Ballast	0.0744	250 Watts Incandescent Lamp	0.2500	$112.24
57 Watt Pin Based CFL Magnetic Ballast	0.0744	300 Watts Incandescent Lamp	0.3000	$112.24
57 Watt Screw In CFL Integral Ballast	0.0570	170 Watts Incandescent Lamp	0.1700	$16.00
57 Watt Screw In CFL Integral Ballast	0.0570	175 Watts Incandescent Lamp	0.1750	$16.00
57 Watt Screw In CFL Integral Ballast	0.0570	180 Watts Incandescent Lamp	0.1800	$16.00
57 Watt Screw In CFL Integral Ballast	0.0570	185 Watts Incandescent Lamp	0.1850	$16.00
57 Watt Screw In CFL Integral Ballast	0.0570	190 Watts Incandescent Lamp	0.1900	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
57 Watt Screw In CFL Integral Ballast	0.0570	195 Watts Incandescent Lamp	0.1950	$16.00
57 Watt Screw In CFL Integral Ballast	0.0570	200 Watts Incandescent Lamp	0.2000	$16.00
57 Watt Screw In CFL Integral Ballast	0.0570	250 Watts Incandescent Lamp	0.2500	$16.00
57 Watt Screw In CFL Integral Ballast	0.0570	300 Watts Incandescent Lamp	0.3000	$16.00
58 Watt Pin Based CFL Electronic Ballast	0.0614	170 Watts Incandescent Lamp	0.1700	$102.62
58 Watt Pin Based CFL Electronic Ballast	0.0614	175 Watts Incandescent Lamp	0.1750	$102.62
58 Watt Pin Based CFL Electronic Ballast	0.0614	180 Watts Incandescent Lamp	0.1800	$102.62
58 Watt Pin Based CFL Electronic Ballast	0.0614	185 Watts Incandescent Lamp	0.1850	$102.62
58 Watt Pin Based CFL Electronic Ballast	0.0614	190 Watts Incandescent Lamp	0.1900	$102.62
58 Watt Pin Based CFL Electronic Ballast	0.0614	195 Watts Incandescent Lamp	0.1950	$102.62
58 Watt Pin Based CFL Electronic Ballast	0.0614	200 Watts Incandescent Lamp	0.2000	$102.62
58 Watt Pin Based CFL Electronic Ballast	0.0614	250 Watts Incandescent Lamp	0.2500	$102.62
58 Watt Pin Based CFL Electronic Ballast	0.0614	300 Watts Incandescent Lamp	0.3000	$102.62
58 Watt Pin Based CFL Magnetic Ballast	0.0757	170 Watts Incandescent Lamp	0.1700	$112.24
58 Watt Pin Based CFL Magnetic Ballast	0.0757	175 Watts Incandescent Lamp	0.1750	$112.24
58 Watt Pin Based CFL Magnetic Ballast	0.0757	180 Watts Incandescent Lamp	0.1800	$112.24
58 Watt Pin Based CFL Magnetic Ballast	0.0757	185 Watts Incandescent Lamp	0.1850	$112.24
58 Watt Pin Based CFL Magnetic Ballast	0.0757	190 Watts Incandescent Lamp	0.1900	$112.24
58 Watt Pin Based CFL Magnetic Ballast	0.0757	195 Watts Incandescent Lamp	0.1950	$112.24
58 Watt Pin Based CFL Magnetic Ballast	0.0757	200 Watts Incandescent Lamp	0.2000	$112.24
58 Watt Pin Based CFL Magnetic Ballast	0.0757	250 Watts Incandescent Lamp	0.2500	$112.24
58 Watt Pin Based CFL Magnetic Ballast	0.0757	300 Watts Incandescent Lamp	0.3000	$112.24
58 Watt Screw In CFL Integral Ballast	0.0580	170 Watts Incandescent Lamp	0.1700	$16.00
58 Watt Screw In CFL Integral Ballast	0.0580	175 Watts Incandescent Lamp	0.1750	$16.00
58 Watt Screw In CFL Integral Ballast	0.0580	180 Watts Incandescent Lamp	0.1800	$16.00
58 Watt Screw In CFL Integral Ballast	0.0580	185 Watts Incandescent Lamp	0.1850	$16.00
58 Watt Screw In CFL Integral Ballast	0.0580	190 Watts Incandescent Lamp	0.1900	$16.00
58 Watt Screw In CFL Integral Ballast	0.0580	195 Watts Incandescent Lamp	0.1950	$16.00
58 Watt Screw In CFL Integral Ballast	0.0580	200 Watts Incandescent Lamp	0.2000	$16.00
58 Watt Screw In CFL Integral Ballast	0.0580	250 Watts Incandescent Lamp	0.2500	$16.00
58 Watt Screw In CFL Integral Ballast	0.0580	300 Watts Incandescent Lamp	0.3000	$16.00
59 Watt Pin Based CFL Electronic Ballast	0.0624	175 Watts Incandescent Lamp	0.1750	$102.62
59 Watt Pin Based CFL Electronic Ballast	0.0624	180 Watts Incandescent Lamp	0.1800	$102.62
59 Watt Pin Based CFL Electronic Ballast	0.0624	185 Watts Incandescent Lamp	0.1850	$102.62
59 Watt Pin Based CFL Electronic Ballast	0.0624	190 Watts Incandescent Lamp	0.1900	$102.62
59 Watt Pin Based CFL Electronic Ballast	0.0624	195 Watts Incandescent Lamp	0.1950	$102.62
59 Watt Pin Based CFL Electronic Ballast	0.0624	200 Watts Incandescent Lamp	0.2000	$102.62
59 Watt Pin Based CFL Electronic Ballast	0.0624	250 Watts Incandescent Lamp	0.2500	$102.62
59 Watt Pin Based CFL Electronic Ballast	0.0624	300 Watts Incandescent Lamp	0.3000	$102.62
59 Watt Pin Based CFL Magnetic Ballast	0.0771	175 Watts Incandescent Lamp	0.1750	$112.24
59 Watt Pin Based CFL Magnetic Ballast	0.0771	180 Watts Incandescent Lamp	0.1800	$112.24
59 Watt Pin Based CFL Magnetic Ballast	0.0771	185 Watts Incandescent Lamp	0.1850	$112.24
59 Watt Pin Based CFL Magnetic Ballast	0.0771	190 Watts Incandescent Lamp	0.1900	$112.24
59 Watt Pin Based CFL Magnetic Ballast	0.0771	195 Watts Incandescent Lamp	0.1950	$112.24
59 Watt Pin Based CFL Magnetic Ballast	0.0771	200 Watts Incandescent Lamp	0.2000	$112.24
59 Watt Pin Based CFL Magnetic Ballast	0.0771	250 Watts Incandescent Lamp	0.2500	$112.24
59 Watt Pin Based CFL Magnetic Ballast	0.0771	300 Watts Incandescent Lamp	0.3000	$112.24
59 Watt Screw In CFL Integral Ballast	0.0590	175 Watts Incandescent Lamp	0.1750	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
59 Watt Screw In CFL Integral Ballast	0.0590	180 Watts Incandescent Lamp	0.1800	$16.00
59 Watt Screw In CFL Integral Ballast	0.0590	185 Watts Incandescent Lamp	0.1850	$16.00
59 Watt Screw In CFL Integral Ballast	0.0590	190 Watts Incandescent Lamp	0.1900	$16.00
59 Watt Screw In CFL Integral Ballast	0.0590	195 Watts Incandescent Lamp	0.1950	$16.00
59 Watt Screw In CFL Integral Ballast	0.0590	200 Watts Incandescent Lamp	0.2000	$16.00
59 Watt Screw In CFL Integral Ballast	0.0590	250 Watts Incandescent Lamp	0.2500	$16.00
59 Watt Screw In CFL Integral Ballast	0.0590	300 Watts Incandescent Lamp	0.3000	$16.00
60 Watt Pin Based CFL Electronic Ballast	0.0635	180 Watts Incandescent Lamp	0.1800	$102.62
60 Watt Pin Based CFL Electronic Ballast	0.0635	185 Watts Incandescent Lamp	0.1850	$102.62
60 Watt Pin Based CFL Electronic Ballast	0.0635	190 Watts Incandescent Lamp	0.1900	$102.62
60 Watt Pin Based CFL Electronic Ballast	0.0635	195 Watts Incandescent Lamp	0.1950	$102.62
60 Watt Pin Based CFL Electronic Ballast	0.0635	200 Watts Incandescent Lamp	0.2000	$102.62
60 Watt Pin Based CFL Electronic Ballast	0.0635	250 Watts Incandescent Lamp	0.2500	$102.62
60 Watt Pin Based CFL Electronic Ballast	0.0635	300 Watts Incandescent Lamp	0.3000	$102.62
60 Watt Pin Based CFL Magnetic Ballast	0.0784	180 Watts Incandescent Lamp	0.1800	$112.24
60 Watt Pin Based CFL Magnetic Ballast	0.0784	185 Watts Incandescent Lamp	0.1850	$112.24
60 Watt Pin Based CFL Magnetic Ballast	0.0784	190 Watts Incandescent Lamp	0.1900	$112.24
60 Watt Pin Based CFL Magnetic Ballast	0.0784	195 Watts Incandescent Lamp	0.1950	$112.24
60 Watt Pin Based CFL Magnetic Ballast	0.0784	200 Watts Incandescent Lamp	0.2000	$112.24
60 Watt Pin Based CFL Magnetic Ballast	0.0784	250 Watts Incandescent Lamp	0.2500	$112.24
60 Watt Pin Based CFL Magnetic Ballast	0.0784	300 Watts Incandescent Lamp	0.3000	$112.24
60 Watt Screw In CFL Integral Ballast	0.0600	180 Watts Incandescent Lamp	0.1800	$16.00
60 Watt Screw In CFL Integral Ballast	0.0600	185 Watts Incandescent Lamp	0.1850	$16.00
60 Watt Screw In CFL Integral Ballast	0.0600	190 Watts Incandescent Lamp	0.1900	$16.00
60 Watt Screw In CFL Integral Ballast	0.0600	195 Watts Incandescent Lamp	0.1950	$16.00
60 Watt Screw In CFL Integral Ballast	0.0600	200 Watts Incandescent Lamp	0.2000	$16.00
60 Watt Screw In CFL Integral Ballast	0.0600	250 Watts Incandescent Lamp	0.2500	$16.00
60 Watt Screw In CFL Integral Ballast	0.0600	300 Watts Incandescent Lamp	0.3000	$16.00
61 Watt Pin Based CFL Electronic Ballast	0.0645	180 Watts Incandescent Lamp	0.1800	$102.62
61 Watt Pin Based CFL Electronic Ballast	0.0645	185 Watts Incandescent Lamp	0.1850	$102.62
61 Watt Pin Based CFL Electronic Ballast	0.0645	190 Watts Incandescent Lamp	0.1900	$102.62
61 Watt Pin Based CFL Electronic Ballast	0.0645	195 Watts Incandescent Lamp	0.1950	$102.62
61 Watt Pin Based CFL Electronic Ballast	0.0645	200 Watts Incandescent Lamp	0.2000	$102.62
61 Watt Pin Based CFL Electronic Ballast	0.0645	250 Watts Incandescent Lamp	0.2500	$102.62
61 Watt Pin Based CFL Electronic Ballast	0.0645	300 Watts Incandescent Lamp	0.3000	$102.62
61 Watt Pin Based CFL Magnetic Ballast	0.0797	180 Watts Incandescent Lamp	0.1800	$112.24
61 Watt Pin Based CFL Magnetic Ballast	0.0797	185 Watts Incandescent Lamp	0.1850	$112.24
61 Watt Pin Based CFL Magnetic Ballast	0.0797	190 Watts Incandescent Lamp	0.1900	$112.24
61 Watt Pin Based CFL Magnetic Ballast	0.0797	195 Watts Incandescent Lamp	0.1950	$112.24
61 Watt Pin Based CFL Magnetic Ballast	0.0797	200 Watts Incandescent Lamp	0.2000	$112.24
61 Watt Pin Based CFL Magnetic Ballast	0.0797	250 Watts Incandescent Lamp	0.2500	$112.24
61 Watt Pin Based CFL Magnetic Ballast	0.0797	300 Watts Incandescent Lamp	0.3000	$112.24
61 Watt Screw In CFL Integral Ballast	0.0610	180 Watts Incandescent Lamp	0.1800	$16.00
61 Watt Screw In CFL Integral Ballast	0.0610	185 Watts Incandescent Lamp	0.1850	$16.00
61 Watt Screw In CFL Integral Ballast	0.0610	190 Watts Incandescent Lamp	0.1900	$16.00
61 Watt Screw In CFL Integral Ballast	0.0610	195 Watts Incandescent Lamp	0.1950	$16.00
61 Watt Screw In CFL Integral Ballast	0.0610	200 Watts Incandescent Lamp	0.2000	$16.00
61 Watt Screw In CFL Integral Ballast	0.0610	250 Watts Incandescent Lamp	0.2500	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
61 Watt Screw In CFL Integral Ballast	0.0610	300 Watts Incandescent Lamp	0.3000	$16.00
62 Watt Pin Based CFL Electronic Ballast	0.0656	185 Watts Incandescent Lamp	0.1850	$102.62
62 Watt Pin Based CFL Electronic Ballast	0.0656	190 Watts Incandescent Lamp	0.1900	$102.62
62 Watt Pin Based CFL Electronic Ballast	0.0656	195 Watts Incandescent Lamp	0.1950	$102.62
62 Watt Pin Based CFL Electronic Ballast	0.0656	200 Watts Incandescent Lamp	0.2000	$102.62
62 Watt Pin Based CFL Electronic Ballast	0.0656	250 Watts Incandescent Lamp	0.2500	$102.62
62 Watt Pin Based CFL Electronic Ballast	0.0656	300 Watts Incandescent Lamp	0.3000	$102.62
62 Watt Pin Based CFL Magnetic Ballast	0.0810	185 Watts Incandescent Lamp	0.1850	$112.24
62 Watt Pin Based CFL Magnetic Ballast	0.0810	190 Watts Incandescent Lamp	0.1900	$112.24
62 Watt Pin Based CFL Magnetic Ballast	0.0810	195 Watts Incandescent Lamp	0.1950	$112.24
62 Watt Pin Based CFL Magnetic Ballast	0.0810	200 Watts Incandescent Lamp	0.2000	$112.24
62 Watt Pin Based CFL Magnetic Ballast	0.0810	250 Watts Incandescent Lamp	0.2500	$112.24
62 Watt Pin Based CFL Magnetic Ballast	0.0810	300 Watts Incandescent Lamp	0.3000	$112.24
62 Watt Screw In CFL Integral Ballast	0.0620	185 Watts Incandescent Lamp	0.1850	$16.00
62 Watt Screw In CFL Integral Ballast	0.0620	190 Watts Incandescent Lamp	0.1900	$16.00
62 Watt Screw In CFL Integral Ballast	0.0620	195 Watts Incandescent Lamp	0.1950	$16.00
62 Watt Screw In CFL Integral Ballast	0.0620	200 Watts Incandescent Lamp	0.2000	$16.00
62 Watt Screw In CFL Integral Ballast	0.0620	250 Watts Incandescent Lamp	0.2500	$16.00
62 Watt Screw In CFL Integral Ballast	0.0620	300 Watts Incandescent Lamp	0.3000	$16.00
63 Watt Pin Based CFL Electronic Ballast	0.0667	185 Watts Incandescent Lamp	0.1850	$102.62
63 Watt Pin Based CFL Electronic Ballast	0.0667	190 Watts Incandescent Lamp	0.1900	$102.62
63 Watt Pin Based CFL Electronic Ballast	0.0667	195 Watts Incandescent Lamp	0.1950	$102.62
63 Watt Pin Based CFL Electronic Ballast	0.0667	200 Watts Incandescent Lamp	0.2000	$102.62
63 Watt Pin Based CFL Electronic Ballast	0.0667	250 Watts Incandescent Lamp	0.2500	$102.62
63 Watt Pin Based CFL Electronic Ballast	0.0667	300 Watts Incandescent Lamp	0.3000	$102.62
63 Watt Pin Based CFL Magnetic Ballast	0.0823	185 Watts Incandescent Lamp	0.1850	$112.24
63 Watt Pin Based CFL Magnetic Ballast	0.0823	190 Watts Incandescent Lamp	0.1900	$112.24
63 Watt Pin Based CFL Magnetic Ballast	0.0823	195 Watts Incandescent Lamp	0.1950	$112.24
63 Watt Pin Based CFL Magnetic Ballast	0.0823	200 Watts Incandescent Lamp	0.2000	$112.24
63 Watt Pin Based CFL Magnetic Ballast	0.0823	250 Watts Incandescent Lamp	0.2500	$112.24
63 Watt Pin Based CFL Magnetic Ballast	0.0823	300 Watts Incandescent Lamp	0.3000	$112.24
63 Watt Screw In CFL Integral Ballast	0.0630	185 Watts Incandescent Lamp	0.1850	$16.00
63 Watt Screw In CFL Integral Ballast	0.0630	190 Watts Incandescent Lamp	0.1900	$16.00
63 Watt Screw In CFL Integral Ballast	0.0630	195 Watts Incandescent Lamp	0.1950	$16.00
63 Watt Screw In CFL Integral Ballast	0.0630	200 Watts Incandescent Lamp	0.2000	$16.00
63 Watt Screw In CFL Integral Ballast	0.0630	250 Watts Incandescent Lamp	0.2500	$16.00
63 Watt Screw In CFL Integral Ballast	0.0630	300 Watts Incandescent Lamp	0.3000	$16.00
64 Watt Pin Based CFL Electronic Ballast	0.0677	190 Watts Incandescent Lamp	0.1900	$102.62
64 Watt Pin Based CFL Electronic Ballast	0.0677	195 Watts Incandescent Lamp	0.1950	$102.62
64 Watt Pin Based CFL Electronic Ballast	0.0677	200 Watts Incandescent Lamp	0.2000	$102.62
64 Watt Pin Based CFL Electronic Ballast	0.0677	250 Watts Incandescent Lamp	0.2500	$102.62
64 Watt Pin Based CFL Electronic Ballast	0.0677	300 Watts Incandescent Lamp	0.3000	$102.62
64 Watt Pin Based CFL Electronic Ballast	0.0677	350 Watts Incandescent Lamp	0.3500	$102.62
64 Watt Pin Based CFL Magnetic Ballast	0.0836	190 Watts Incandescent Lamp	0.1900	$112.24
64 Watt Pin Based CFL Magnetic Ballast	0.0836	195 Watts Incandescent Lamp	0.1950	$112.24
64 Watt Pin Based CFL Magnetic Ballast	0.0836	200 Watts Incandescent Lamp	0.2000	$112.24
64 Watt Pin Based CFL Magnetic Ballast	0.0836	250 Watts Incandescent Lamp	0.2500	$112.24
64 Watt Pin Based CFL Magnetic Ballast	0.0836	300 Watts Incandescent Lamp	0.3000	$112.24

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
64 Watt Pin Based CFL Magnetic Ballast	0.0836	350 Watts Incandescent Lamp	0.3500	$112.24
64 Watt Screw In CFL Integral Ballast	0.0640	190 Watts Incandescent Lamp	0.1900	$16.00
64 Watt Screw In CFL Integral Ballast	0.0640	195 Watts Incandescent Lamp	0.1950	$16.00
64 Watt Screw In CFL Integral Ballast	0.0640	200 Watts Incandescent Lamp	0.2000	$16.00
64 Watt Screw In CFL Integral Ballast	0.0640	250 Watts Incandescent Lamp	0.2500	$16.00
64 Watt Screw In CFL Integral Ballast	0.0640	300 Watts Incandescent Lamp	0.3000	$16.00
64 Watt Screw In CFL Integral Ballast	0.0640	350 Watts Incandescent Lamp	0.3500	$16.00
65 Watt Pin Based CFL Electronic Ballast	0.0688	195 Watts Incandescent Lamp	0.1950	$102.62
65 Watt Pin Based CFL Electronic Ballast	0.0688	200 Watts Incandescent Lamp	0.2000	$102.62
65 Watt Pin Based CFL Electronic Ballast	0.0688	250 Watts Incandescent Lamp	0.2500	$102.62
65 Watt Pin Based CFL Electronic Ballast	0.0688	300 Watts Incandescent Lamp	0.3000	$102.62
65 Watt Pin Based CFL Electronic Ballast	0.0688	350 Watts Incandescent Lamp	0.3500	$102.62
65 Watt Pin Based CFL Magnetic Ballast	0.0849	195 Watts Incandescent Lamp	0.1950	$112.24
65 Watt Pin Based CFL Magnetic Ballast	0.0849	200 Watts Incandescent Lamp	0.2000	$112.24
65 Watt Pin Based CFL Magnetic Ballast	0.0849	250 Watts Incandescent Lamp	0.2500	$112.24
65 Watt Pin Based CFL Magnetic Ballast	0.0849	300 Watts Incandescent Lamp	0.3000	$112.24
65 Watt Pin Based CFL Magnetic Ballast	0.0849	350 Watts Incandescent Lamp	0.3500	$112.24
65 Watt Screw In CFL Integral Ballast	0.0650	195 Watts Incandescent Lamp	0.1950	$16.00
65 Watt Screw In CFL Integral Ballast	0.0650	200 Watts Incandescent Lamp	0.2000	$16.00
65 Watt Screw In CFL Integral Ballast	0.0650	250 Watts Incandescent Lamp	0.2500	$16.00
65 Watt Screw In CFL Integral Ballast	0.0650	300 Watts Incandescent Lamp	0.3000	$16.00
65 Watt Screw In CFL Integral Ballast	0.0650	350 Watts Incandescent Lamp	0.3500	$16.00
66 Watt Pin Based CFL Electronic Ballast	0.0698	195 Watts Incandescent Lamp	0.1950	$102.62
66 Watt Pin Based CFL Electronic Ballast	0.0698	200 Watts Incandescent Lamp	0.2000	$102.62
66 Watt Pin Based CFL Electronic Ballast	0.0698	250 Watts Incandescent Lamp	0.2500	$102.62
66 Watt Pin Based CFL Electronic Ballast	0.0698	300 Watts Incandescent Lamp	0.3000	$102.62
66 Watt Pin Based CFL Electronic Ballast	0.0698	350 Watts Incandescent Lamp	0.3500	$102.62
66 Watt Pin Based CFL Magnetic Ballast	0.0862	195 Watts Incandescent Lamp	0.1950	$112.24
66 Watt Pin Based CFL Magnetic Ballast	0.0862	200 Watts Incandescent Lamp	0.2000	$112.24
66 Watt Pin Based CFL Magnetic Ballast	0.0862	250 Watts Incandescent Lamp	0.2500	$112.24
66 Watt Pin Based CFL Magnetic Ballast	0.0862	300 Watts Incandescent Lamp	0.3000	$112.24
66 Watt Pin Based CFL Magnetic Ballast	0.0862	350 Watts Incandescent Lamp	0.3500	$112.24
66 Watt Screw In CFL Integral Ballast	0.0660	195 Watts Incandescent Lamp	0.1950	$16.00
66 Watt Screw In CFL Integral Ballast	0.0660	200 Watts Incandescent Lamp	0.2000	$16.00
66 Watt Screw In CFL Integral Ballast	0.0660	250 Watts Incandescent Lamp	0.2500	$16.00
66 Watt Screw In CFL Integral Ballast	0.0660	300 Watts Incandescent Lamp	0.3000	$16.00
66 Watt Screw In CFL Integral Ballast	0.0660	350 Watts Incandescent Lamp	0.3500	$16.00
67 Watt Pin Based CFL Electronic Ballast	0.0709	200 Watts Incandescent Lamp	0.2000	$102.62
67 Watt Pin Based CFL Electronic Ballast	0.0709	250 Watts Incandescent Lamp	0.2500	$102.62
67 Watt Pin Based CFL Electronic Ballast	0.0709	300 Watts Incandescent Lamp	0.3000	$102.62
67 Watt Pin Based CFL Electronic Ballast	0.0709	350 Watts Incandescent Lamp	0.3500	$102.62
67 Watt Pin Based CFL Magnetic Ballast	0.0875	200 Watts Incandescent Lamp	0.2000	$112.24
67 Watt Pin Based CFL Magnetic Ballast	0.0875	250 Watts Incandescent Lamp	0.2500	$112.24
67 Watt Pin Based CFL Magnetic Ballast	0.0875	300 Watts Incandescent Lamp	0.3000	$112.24
67 Watt Pin Based CFL Magnetic Ballast	0.0875	350 Watts Incandescent Lamp	0.3500	$112.24
67 Watt Screw In CFL Integral Ballast	0.0670	200 Watts Incandescent Lamp	0.2000	$16.00
67 Watt Screw In CFL Integral Ballast	0.0670	250 Watts Incandescent Lamp	0.2500	$16.00
67 Watt Screw In CFL Integral Ballast	0.0670	300 Watts Incandescent Lamp	0.3000	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
67 Watt Screw In CFL Integral Ballast	0.0670	350 Watts Incandescent Lamp	0.3500	$16.00
68 Watt Pin Based CFL Electronic Ballast	0.0719	200 Watts Incandescent Lamp	0.2000	$102.62
68 Watt Pin Based CFL Electronic Ballast	0.0719	250 Watts Incandescent Lamp	0.2500	$102.62
68 Watt Pin Based CFL Electronic Ballast	0.0719	300 Watts Incandescent Lamp	0.3000	$102.62
68 Watt Pin Based CFL Electronic Ballast	0.0719	350 Watts Incandescent Lamp	0.3500	$102.62
68 Watt Pin Based CFL Magnetic Ballast	0.0888	200 Watts Incandescent Lamp	0.2000	$112.24
68 Watt Pin Based CFL Magnetic Ballast	0.0888	250 Watts Incandescent Lamp	0.2500	$112.24
68 Watt Pin Based CFL Magnetic Ballast	0.0888	300 Watts Incandescent Lamp	0.3000	$112.24
68 Watt Pin Based CFL Magnetic Ballast	0.0888	350 Watts Incandescent Lamp	0.3500	$112.24
68 Watt Screw In CFL Integral Ballast	0.0680	200 Watts Incandescent Lamp	0.2000	$16.00
68 Watt Screw In CFL Integral Ballast	0.0680	250 Watts Incandescent Lamp	0.2500	$16.00
68 Watt Screw In CFL Integral Ballast	0.0680	300 Watts Incandescent Lamp	0.3000	$16.00
68 Watt Screw In CFL Integral Ballast	0.0680	350 Watts Incandescent Lamp	0.3500	$16.00
69 Watt Pin Based CFL Electronic Ballast	0.0730	200 Watts Incandescent Lamp	0.2000	$102.62
69 Watt Pin Based CFL Electronic Ballast	0.0730	250 Watts Incandescent Lamp	0.2500	$102.62
69 Watt Pin Based CFL Electronic Ballast	0.0730	300 Watts Incandescent Lamp	0.3000	$102.62
69 Watt Pin Based CFL Electronic Ballast	0.0730	350 Watts Incandescent Lamp	0.3500	$102.62
69 Watt Pin Based CFL Magnetic Ballast	0.0901	200 Watts Incandescent Lamp	0.2000	$112.24
69 Watt Pin Based CFL Magnetic Ballast	0.0901	250 Watts Incandescent Lamp	0.2500	$112.24
69 Watt Pin Based CFL Magnetic Ballast	0.0901	300 Watts Incandescent Lamp	0.3000	$112.24
69 Watt Pin Based CFL Magnetic Ballast	0.0901	350 Watts Incandescent Lamp	0.3500	$112.24
69 Watt Screw In CFL Integral Ballast	0.0690	200 Watts Incandescent Lamp	0.2000	$16.00
69 Watt Screw In CFL Integral Ballast	0.0690	250 Watts Incandescent Lamp	0.2500	$16.00
69 Watt Screw In CFL Integral Ballast	0.0690	300 Watts Incandescent Lamp	0.3000	$16.00
69 Watt Screw In CFL Integral Ballast	0.0690	350 Watts Incandescent Lamp	0.3500	$16.00
70 Watt Pin Based CFL Electronic Ballast	0.0741	200 Watts Incandescent Lamp	0.2000	$102.62
70 Watt Pin Based CFL Electronic Ballast	0.0741	250 Watts Incandescent Lamp	0.2500	$102.62
70 Watt Pin Based CFL Electronic Ballast	0.0741	300 Watts Incandescent Lamp	0.3000	$102.62
70 Watt Pin Based CFL Electronic Ballast	0.0741	350 Watts Incandescent Lamp	0.3500	$102.62
70 Watt Pin Based CFL Magnetic Ballast	0.0914	200 Watts Incandescent Lamp	0.2000	$112.24
70 Watt Pin Based CFL Magnetic Ballast	0.0914	250 Watts Incandescent Lamp	0.2500	$112.24
70 Watt Pin Based CFL Magnetic Ballast	0.0914	300 Watts Incandescent Lamp	0.3000	$112.24
70 Watt Pin Based CFL Magnetic Ballast	0.0914	350 Watts Incandescent Lamp	0.3500	$112.24
70 Watt Screw In CFL Integral Ballast	0.0700	200 Watts Incandescent Lamp	0.2000	$16.00
70 Watt Screw In CFL Integral Ballast	0.0700	250 Watts Incandescent Lamp	0.2500	$16.00
70 Watt Screw In CFL Integral Ballast	0.0700	300 Watts Incandescent Lamp	0.3000	$16.00
70 Watt Screw In CFL Integral Ballast	0.0700	350 Watts Incandescent Lamp	0.3500	$16.00
71 Watt Pin Based CFL Electronic Ballast	0.0751	200 Watts Incandescent Lamp	0.2000	$102.62
71 Watt Pin Based CFL Electronic Ballast	0.0751	250 Watts Incandescent Lamp	0.2500	$102.62
71 Watt Pin Based CFL Electronic Ballast	0.0751	300 Watts Incandescent Lamp	0.3000	$102.62
71 Watt Pin Based CFL Electronic Ballast	0.0751	350 Watts Incandescent Lamp	0.3500	$102.62
71 Watt Pin Based CFL Magnetic Ballast	0.0927	200 Watts Incandescent Lamp	0.2000	$112.24
71 Watt Pin Based CFL Magnetic Ballast	0.0927	250 Watts Incandescent Lamp	0.2500	$112.24
71 Watt Pin Based CFL Magnetic Ballast	0.0927	300 Watts Incandescent Lamp	0.3000	$112.24
71 Watt Pin Based CFL Magnetic Ballast	0.0927	350 Watts Incandescent Lamp	0.3500	$112.24
71 Watt Screw In CFL Integral Ballast	0.0710	200 Watts Incandescent Lamp	0.2000	$16.00
71 Watt Screw In CFL Integral Ballast	0.0710	250 Watts Incandescent Lamp	0.2500	$16.00
71 Watt Screw In CFL Integral Ballast	0.0710	300 Watts Incandescent Lamp	0.3000	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
71 Watt Screw In CFL Integral Ballast	0.0710	350 Watts Incandescent Lamp	0.3500	$16.00
72 Watt Pin Based CFL Electronic Ballast	0.0762	200 Watts Incandescent Lamp	0.2000	$102.62
72 Watt Pin Based CFL Electronic Ballast	0.0762	250 Watts Incandescent Lamp	0.2500	$102.62
72 Watt Pin Based CFL Electronic Ballast	0.0762	300 Watts Incandescent Lamp	0.3000	$102.62
72 Watt Pin Based CFL Electronic Ballast	0.0762	350 Watts Incandescent Lamp	0.3500	$102.62
72 Watt Pin Based CFL Magnetic Ballast	0.0940	200 Watts Incandescent Lamp	0.2000	$112.24
72 Watt Pin Based CFL Magnetic Ballast	0.0940	250 Watts Incandescent Lamp	0.2500	$112.24
72 Watt Pin Based CFL Magnetic Ballast	0.0940	300 Watts Incandescent Lamp	0.3000	$112.24
72 Watt Pin Based CFL Magnetic Ballast	0.0940	350 Watts Incandescent Lamp	0.3500	$112.24
72 Watt Screw In CFL Integral Ballast	0.0720	200 Watts Incandescent Lamp	0.2000	$16.00
72 Watt Screw In CFL Integral Ballast	0.0720	250 Watts Incandescent Lamp	0.2500	$16.00
72 Watt Screw In CFL Integral Ballast	0.0720	300 Watts Incandescent Lamp	0.3000	$16.00
72 Watt Screw In CFL Integral Ballast	0.0720	350 Watts Incandescent Lamp	0.3500	$16.00
73 Watt Pin Based CFL Electronic Ballast	0.0772	200 Watts Incandescent Lamp	0.2000	$102.62
73 Watt Pin Based CFL Electronic Ballast	0.0772	250 Watts Incandescent Lamp	0.2500	$102.62
73 Watt Pin Based CFL Electronic Ballast	0.0772	300 Watts Incandescent Lamp	0.3000	$102.62
73 Watt Pin Based CFL Electronic Ballast	0.0772	350 Watts Incandescent Lamp	0.3500	$102.62
73 Watt Pin Based CFL Electronic Ballast	0.0772	400 Watts Incandescent Lamp	0.4000	$102.62
73 Watt Pin Based CFL Magnetic Ballast	0.0953	200 Watts Incandescent Lamp	0.2000	$112.24
73 Watt Pin Based CFL Magnetic Ballast	0.0953	250 Watts Incandescent Lamp	0.2500	$112.24
73 Watt Pin Based CFL Magnetic Ballast	0.0953	300 Watts Incandescent Lamp	0.3000	$112.24
73 Watt Pin Based CFL Magnetic Ballast	0.0953	350 Watts Incandescent Lamp	0.3500	$112.24
73 Watt Pin Based CFL Magnetic Ballast	0.0953	400 Watts Incandescent Lamp	0.4000	$112.24
73 Watt Screw In CFL Integral Ballast	0.0730	200 Watts Incandescent Lamp	0.2000	$16.00
73 Watt Screw In CFL Integral Ballast	0.0730	250 Watts Incandescent Lamp	0.2500	$16.00
73 Watt Screw In CFL Integral Ballast	0.0730	300 Watts Incandescent Lamp	0.3000	$16.00
73 Watt Screw In CFL Integral Ballast	0.0730	350 Watts Incandescent Lamp	0.3500	$16.00
73 Watt Screw In CFL Integral Ballast	0.0730	400 Watts Incandescent Lamp	0.4000	$16.00
74 Watt Pin Based CFL Electronic Ballast	0.0783	200 Watts Incandescent Lamp	0.2000	$102.62
74 Watt Pin Based CFL Electronic Ballast	0.0783	250 Watts Incandescent Lamp	0.2500	$102.62
74 Watt Pin Based CFL Electronic Ballast	0.0783	300 Watts Incandescent Lamp	0.3000	$102.62
74 Watt Pin Based CFL Electronic Ballast	0.0783	350 Watts Incandescent Lamp	0.3500	$102.62
74 Watt Pin Based CFL Electronic Ballast	0.0783	400 Watts Incandescent Lamp	0.4000	$102.62
74 Watt Pin Based CFL Magnetic Ballast	0.0966	200 Watts Incandescent Lamp	0.2000	$112.24
74 Watt Pin Based CFL Magnetic Ballast	0.0966	250 Watts Incandescent Lamp	0.2500	$112.24
74 Watt Pin Based CFL Magnetic Ballast	0.0966	300 Watts Incandescent Lamp	0.3000	$112.24
74 Watt Pin Based CFL Magnetic Ballast	0.0966	350 Watts Incandescent Lamp	0.3500	$112.24
74 Watt Pin Based CFL Magnetic Ballast	0.0966	400 Watts Incandescent Lamp	0.4000	$112.24
74 Watt Screw In CFL Integral Ballast	0.0740	200 Watts Incandescent Lamp	0.2000	$16.00
74 Watt Screw In CFL Integral Ballast	0.0740	250 Watts Incandescent Lamp	0.2500	$16.00
74 Watt Screw In CFL Integral Ballast	0.0740	300 Watts Incandescent Lamp	0.3000	$16.00
74 Watt Screw In CFL Integral Ballast	0.0740	350 Watts Incandescent Lamp	0.3500	$16.00
74 Watt Screw In CFL Integral Ballast	0.0740	400 Watts Incandescent Lamp	0.4000	$16.00
75 Watt Pin Based CFL Electronic Ballast	0.0794	200 Watts Incandescent Lamp	0.2000	$102.62
75 Watt Pin Based CFL Electronic Ballast	0.0794	250 Watts Incandescent Lamp	0.2500	$102.62
75 Watt Pin Based CFL Electronic Ballast	0.0794	300 Watts Incandescent Lamp	0.3000	$102.62
75 Watt Pin Based CFL Electronic Ballast	0.0794	350 Watts Incandescent Lamp	0.3500	$102.62
75 Watt Pin Based CFL Electronic Ballast	0.0794	400 Watts Incandescent Lamp	0.4000	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
75 Watt Pin Based CFL Magnetic Ballast	0.0980	200 Watts Incandescent Lamp	0.2000	$112.24
75 Watt Pin Based CFL Magnetic Ballast	0.0980	250 Watts Incandescent Lamp	0.2500	$112.24
75 Watt Pin Based CFL Magnetic Ballast	0.0980	300 Watts Incandescent Lamp	0.3000	$112.24
75 Watt Pin Based CFL Magnetic Ballast	0.0980	350 Watts Incandescent Lamp	0.3500	$112.24
75 Watt Pin Based CFL Magnetic Ballast	0.0980	400 Watts Incandescent Lamp	0.4000	$112.24
75 Watt Screw In CFL Integral Ballast	0.0750	200 Watts Incandescent Lamp	0.2000	$16.00
75 Watt Screw In CFL Integral Ballast	0.0750	250 Watts Incandescent Lamp	0.2500	$16.00
75 Watt Screw In CFL Integral Ballast	0.0750	300 Watts Incandescent Lamp	0.3000	$16.00
75 Watt Screw In CFL Integral Ballast	0.0750	350 Watts Incandescent Lamp	0.3500	$16.00
75 Watt Screw In CFL Integral Ballast	0.0750	400 Watts Incandescent Lamp	0.4000	$16.00
750W Pulse Start Metal Halide, magnetic ballast	0.8140	1000W Metal Halide, magnetic ballast	1.0770	$381.00
750W Pulse Start Metal Halide, magnetic ballast	0.8140	Mercury Vapor, 1000W lamp	1.0800	$381.00
750W Pulse Start Metal Halide, magnetic ballast	0.8140	High Pressure Sodium, 1000W lamp	1.1000	$381.00
76 Watt Pin Based CFL Electronic Ballast	0.0804	250 Watts Incandescent Lamp	0.2500	$102.62
76 Watt Pin Based CFL Electronic Ballast	0.0804	300 Watts Incandescent Lamp	0.3000	$102.62
76 Watt Pin Based CFL Electronic Ballast	0.0804	350 Watts Incandescent Lamp	0.3500	$102.62
76 Watt Pin Based CFL Electronic Ballast	0.0804	400 Watts Incandescent Lamp	0.4000	$102.62
76 Watt Pin Based CFL Magnetic Ballast	0.0993	250 Watts Incandescent Lamp	0.2500	$112.24
76 Watt Pin Based CFL Magnetic Ballast	0.0993	300 Watts Incandescent Lamp	0.3000	$112.24
76 Watt Pin Based CFL Magnetic Ballast	0.0993	350 Watts Incandescent Lamp	0.3500	$112.24
76 Watt Pin Based CFL Magnetic Ballast	0.0993	400 Watts Incandescent Lamp	0.4000	$112.24
76 Watt Screw In CFL Integral Ballast	0.0760	250 Watts Incandescent Lamp	0.2500	$16.00
76 Watt Screw In CFL Integral Ballast	0.0760	300 Watts Incandescent Lamp	0.3000	$16.00
76 Watt Screw In CFL Integral Ballast	0.0760	350 Watts Incandescent Lamp	0.3500	$16.00
76 Watt Screw In CFL Integral Ballast	0.0760	400 Watts Incandescent Lamp	0.4000	$16.00
77 Watt Pin Based CFL Electronic Ballast	0.0815	250 Watts Incandescent Lamp	0.2500	$102.62
77 Watt Pin Based CFL Electronic Ballast	0.0815	300 Watts Incandescent Lamp	0.3000	$102.62
77 Watt Pin Based CFL Electronic Ballast	0.0815	350 Watts Incandescent Lamp	0.3500	$102.62
77 Watt Pin Based CFL Electronic Ballast	0.0815	400 Watts Incandescent Lamp	0.4000	$102.62
77 Watt Pin Based CFL Magnetic Ballast	0.1006	250 Watts Incandescent Lamp	0.2500	$112.24
77 Watt Pin Based CFL Magnetic Ballast	0.1006	300 Watts Incandescent Lamp	0.3000	$112.24
77 Watt Pin Based CFL Magnetic Ballast	0.1006	350 Watts Incandescent Lamp	0.3500	$112.24
77 Watt Pin Based CFL Magnetic Ballast	0.1006	400 Watts Incandescent Lamp	0.4000	$112.24
77 Watt Screw In CFL Integral Ballast	0.0770	250 Watts Incandescent Lamp	0.2500	$16.00
77 Watt Screw In CFL Integral Ballast	0.0770	300 Watts Incandescent Lamp	0.3000	$16.00
77 Watt Screw In CFL Integral Ballast	0.0770	350 Watts Incandescent Lamp	0.3500	$16.00
77 Watt Screw In CFL Integral Ballast	0.0770	400 Watts Incandescent Lamp	0.4000	$16.00
78 Watt Pin Based CFL Electronic Ballast	0.0825	250 Watts Incandescent Lamp	0.2500	$102.62
78 Watt Pin Based CFL Electronic Ballast	0.0825	300 Watts Incandescent Lamp	0.3000	$102.62
78 Watt Pin Based CFL Electronic Ballast	0.0825	350 Watts Incandescent Lamp	0.3500	$102.62
78 Watt Pin Based CFL Electronic Ballast	0.0825	400 Watts Incandescent Lamp	0.4000	$102.62
78 Watt Pin Based CFL Magnetic Ballast	0.1019	250 Watts Incandescent Lamp	0.2500	$112.24
78 Watt Pin Based CFL Magnetic Ballast	0.1019	300 Watts Incandescent Lamp	0.3000	$112.24
78 Watt Pin Based CFL Magnetic Ballast	0.1019	350 Watts Incandescent Lamp	0.3500	$112.24
78 Watt Pin Based CFL Magnetic Ballast	0.1019	400 Watts Incandescent Lamp	0.4000	$112.24
78 Watt Screw In CFL Integral Ballast	0.0780	250 Watts Incandescent Lamp	0.2500	$16.00
78 Watt Screw In CFL Integral Ballast	0.0780	300 Watts Incandescent Lamp	0.3000	$16.00
78 Watt Screw In CFL Integral Ballast	0.0780	350 Watts Incandescent Lamp	0.3500	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
78 Watt Screw In CFL Integral Ballast	0.0780	400 Watts Incandescent Lamp	0.4000	$16.00
79 Watt Pin Based CFL Electronic Ballast	0.0836	250 Watts Incandescent Lamp	0.2500	$102.62
79 Watt Pin Based CFL Electronic Ballast	0.0836	300 Watts Incandescent Lamp	0.3000	$102.62
79 Watt Pin Based CFL Electronic Ballast	0.0836	350 Watts Incandescent Lamp	0.3500	$102.62
79 Watt Pin Based CFL Electronic Ballast	0.0836	400 Watts Incandescent Lamp	0.4000	$102.62
79 Watt Pin Based CFL Magnetic Ballast	0.1032	250 Watts Incandescent Lamp	0.2500	$112.24
79 Watt Pin Based CFL Magnetic Ballast	0.1032	300 Watts Incandescent Lamp	0.3000	$112.24
79 Watt Pin Based CFL Magnetic Ballast	0.1032	350 Watts Incandescent Lamp	0.3500	$112.24
79 Watt Pin Based CFL Magnetic Ballast	0.1032	400 Watts Incandescent Lamp	0.4000	$112.24
79 Watt Screw In CFL Integral Ballast	0.0790	250 Watts Incandescent Lamp	0.2500	$16.00
79 Watt Screw In CFL Integral Ballast	0.0790	300 Watts Incandescent Lamp	0.3000	$16.00
79 Watt Screw In CFL Integral Ballast	0.0790	350 Watts Incandescent Lamp	0.3500	$16.00
79 Watt Screw In CFL Integral Ballast	0.0790	400 Watts Incandescent Lamp	0.4000	$16.00
80 Watt Pin Based CFL Electronic Ballast	0.0846	250 Watts Incandescent Lamp	0.2500	$102.62
80 Watt Pin Based CFL Electronic Ballast	0.0846	300 Watts Incandescent Lamp	0.3000	$102.62
80 Watt Pin Based CFL Electronic Ballast	0.0846	350 Watts Incandescent Lamp	0.3500	$102.62
80 Watt Pin Based CFL Electronic Ballast	0.0846	400 Watts Incandescent Lamp	0.4000	$102.62
80 Watt Pin Based CFL Electronic Ballast	0.0846	500 Watts Incandescent Lamp	0.5000	$102.62
80 Watt Pin Based CFL Magnetic Ballast	0.1045	250 Watts Incandescent Lamp	0.2500	$112.24
80 Watt Pin Based CFL Magnetic Ballast	0.1045	300 Watts Incandescent Lamp	0.3000	$112.24
80 Watt Pin Based CFL Magnetic Ballast	0.1045	350 Watts Incandescent Lamp	0.3500	$112.24
80 Watt Pin Based CFL Magnetic Ballast	0.1045	400 Watts Incandescent Lamp	0.4000	$112.24
80 Watt Pin Based CFL Magnetic Ballast	0.1045	500 Watts Incandescent Lamp	0.5000	$112.24
80 Watt Screw In CFL Integral Ballast	0.0800	250 Watts Incandescent Lamp	0.2500	$16.00
80 Watt Screw In CFL Integral Ballast	0.0800	300 Watts Incandescent Lamp	0.3000	$16.00
80 Watt Screw In CFL Integral Ballast	0.0800	350 Watts Incandescent Lamp	0.3500	$16.00
80 Watt Screw In CFL Integral Ballast	0.0800	400 Watts Incandescent Lamp	0.4000	$16.00
80 Watt Screw In CFL Integral Ballast	0.0800	500 Watts Incandescent Lamp	0.5000	$16.00
81 Watt Pin Based CFL Electronic Ballast	0.0857	250 Watts Incandescent Lamp	0.2500	$102.62
81 Watt Pin Based CFL Electronic Ballast	0.0857	300 Watts Incandescent Lamp	0.3000	$102.62
81 Watt Pin Based CFL Electronic Ballast	0.0857	350 Watts Incandescent Lamp	0.3500	$102.62
81 Watt Pin Based CFL Electronic Ballast	0.0857	400 Watts Incandescent Lamp	0.4000	$102.62
81 Watt Pin Based CFL Electronic Ballast	0.0857	500 Watts Incandescent Lamp	0.5000	$102.62
81 Watt Pin Based CFL Magnetic Ballast	0.1058	250 Watts Incandescent Lamp	0.2500	$112.24
81 Watt Pin Based CFL Magnetic Ballast	0.1058	300 Watts Incandescent Lamp	0.3000	$112.24
81 Watt Pin Based CFL Magnetic Ballast	0.1058	350 Watts Incandescent Lamp	0.3500	$112.24
81 Watt Pin Based CFL Magnetic Ballast	0.1058	400 Watts Incandescent Lamp	0.4000	$112.24
81 Watt Pin Based CFL Magnetic Ballast	0.1058	500 Watts Incandescent Lamp	0.5000	$112.24
81 Watt Screw In CFL Integral Ballast	0.0810	250 Watts Incandescent Lamp	0.2500	$16.00
81 Watt Screw In CFL Integral Ballast	0.0810	300 Watts Incandescent Lamp	0.3000	$16.00
81 Watt Screw In CFL Integral Ballast	0.0810	350 Watts Incandescent Lamp	0.3500	$16.00
81 Watt Screw In CFL Integral Ballast	0.0810	400 Watts Incandescent Lamp	0.4000	$16.00
81 Watt Screw In CFL Integral Ballast	0.0810	500 Watts Incandescent Lamp	0.5000	$16.00
82 Watt Pin Based CFL Electronic Ballast	0.0868	250 Watts Incandescent Lamp	0.2500	$102.62
82 Watt Pin Based CFL Electronic Ballast	0.0868	300 Watts Incandescent Lamp	0.3000	$102.62
82 Watt Pin Based CFL Electronic Ballast	0.0868	350 Watts Incandescent Lamp	0.3500	$102.62
82 Watt Pin Based CFL Electronic Ballast	0.0868	400 Watts Incandescent Lamp	0.4000	$102.62
82 Watt Pin Based CFL Electronic Ballast	0.0868	500 Watts Incandescent Lamp	0.5000	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
82 Watt Pin Based CFL Magnetic Ballast	0.1071	250 Watts Incandescent Lamp	0.2500	$112.24
82 Watt Pin Based CFL Magnetic Ballast	0.1071	300 Watts Incandescent Lamp	0.3000	$112.24
82 Watt Pin Based CFL Magnetic Ballast	0.1071	350 Watts Incandescent Lamp	0.3500	$112.24
82 Watt Pin Based CFL Magnetic Ballast	0.1071	400 Watts Incandescent Lamp	0.4000	$112.24
82 Watt Pin Based CFL Magnetic Ballast	0.1071	500 Watts Incandescent Lamp	0.5000	$112.24
82 Watt Screw In CFL Integral Ballast	0.0820	250 Watts Incandescent Lamp	0.2500	$16.00
82 Watt Screw In CFL Integral Ballast	0.0820	300 Watts Incandescent Lamp	0.3000	$16.00
82 Watt Screw In CFL Integral Ballast	0.0820	350 Watts Incandescent Lamp	0.3500	$16.00
82 Watt Screw In CFL Integral Ballast	0.0820	400 Watts Incandescent Lamp	0.4000	$16.00
82 Watt Screw In CFL Integral Ballast	0.0820	500 Watts Incandescent Lamp	0.5000	$16.00
83 Watt Pin Based CFL Electronic Ballast	0.0878	250 Watts Incandescent Lamp	0.2500	$102.62
83 Watt Pin Based CFL Electronic Ballast	0.0878	300 Watts Incandescent Lamp	0.3000	$102.62
83 Watt Pin Based CFL Electronic Ballast	0.0878	350 Watts Incandescent Lamp	0.3500	$102.62
83 Watt Pin Based CFL Electronic Ballast	0.0878	400 Watts Incandescent Lamp	0.4000	$102.62
83 Watt Pin Based CFL Electronic Ballast	0.0878	500 Watts Incandescent Lamp	0.5000	$102.62
83 Watt Pin Based CFL Magnetic Ballast	0.1084	250 Watts Incandescent Lamp	0.2500	$112.24
83 Watt Pin Based CFL Magnetic Ballast	0.1084	300 Watts Incandescent Lamp	0.3000	$112.24
83 Watt Pin Based CFL Magnetic Ballast	0.1084	350 Watts Incandescent Lamp	0.3500	$112.24
83 Watt Pin Based CFL Magnetic Ballast	0.1084	400 Watts Incandescent Lamp	0.4000	$112.24
83 Watt Pin Based CFL Magnetic Ballast	0.1084	500 Watts Incandescent Lamp	0.5000	$112.24
83 Watt Screw In CFL Integral Ballast	0.0830	250 Watts Incandescent Lamp	0.2500	$16.00
83 Watt Screw In CFL Integral Ballast	0.0830	300 Watts Incandescent Lamp	0.3000	$16.00
83 Watt Screw In CFL Integral Ballast	0.0830	350 Watts Incandescent Lamp	0.3500	$16.00
83 Watt Screw In CFL Integral Ballast	0.0830	400 Watts Incandescent Lamp	0.4000	$16.00
83 Watt Screw In CFL Integral Ballast	0.0830	500 Watts Incandescent Lamp	0.5000	$16.00
84 Watt Pin Based CFL Electronic Ballast	0.0889	250 Watts Incandescent Lamp	0.2500	$102.62
84 Watt Pin Based CFL Electronic Ballast	0.0889	300 Watts Incandescent Lamp	0.3000	$102.62
84 Watt Pin Based CFL Electronic Ballast	0.0889	350 Watts Incandescent Lamp	0.3500	$102.62
84 Watt Pin Based CFL Electronic Ballast	0.0889	400 Watts Incandescent Lamp	0.4000	$102.62
84 Watt Pin Based CFL Electronic Ballast	0.0889	500 Watts Incandescent Lamp	0.5000	$102.62
84 Watt Pin Based CFL Magnetic Ballast	0.1097	250 Watts Incandescent Lamp	0.2500	$112.24
84 Watt Pin Based CFL Magnetic Ballast	0.1097	300 Watts Incandescent Lamp	0.3000	$112.24
84 Watt Pin Based CFL Magnetic Ballast	0.1097	350 Watts Incandescent Lamp	0.3500	$112.24
84 Watt Pin Based CFL Magnetic Ballast	0.1097	400 Watts Incandescent Lamp	0.4000	$112.24
84 Watt Pin Based CFL Magnetic Ballast	0.1097	500 Watts Incandescent Lamp	0.5000	$112.24
84 Watt Screw In CFL Integral Ballast	0.0840	250 Watts Incandescent Lamp	0.2500	$16.00
84 Watt Screw In CFL Integral Ballast	0.0840	300 Watts Incandescent Lamp	0.3000	$16.00
84 Watt Screw In CFL Integral Ballast	0.0840	350 Watts Incandescent Lamp	0.3500	$16.00
84 Watt Screw In CFL Integral Ballast	0.0840	400 Watts Incandescent Lamp	0.4000	$16.00
84 Watt Screw In CFL Integral Ballast	0.0840	500 Watts Incandescent Lamp	0.5000	$16.00
85 Watt Pin Based CFL Electronic Ballast	0.0899	250 Watts Incandescent Lamp	0.2500	$102.62
85 Watt Pin Based CFL Electronic Ballast	0.0899	300 Watts Incandescent Lamp	0.3000	$102.62
85 Watt Pin Based CFL Electronic Ballast	0.0899	350 Watts Incandescent Lamp	0.3500	$102.62
85 Watt Pin Based CFL Electronic Ballast	0.0899	400 Watts Incandescent Lamp	0.4000	$102.62
85 Watt Pin Based CFL Electronic Ballast	0.0899	500 Watts Incandescent Lamp	0.5000	$102.62
85 Watt Pin Based CFL Magnetic Ballast	0.1110	250 Watts Incandescent Lamp	0.2500	$112.24
85 Watt Pin Based CFL Magnetic Ballast	0.1110	300 Watts Incandescent Lamp	0.3000	$112.24
85 Watt Pin Based CFL Magnetic Ballast	0.1110	350 Watts Incandescent Lamp	0.3500	$112.24

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
85 Watt Pin Based CFL Magnetic Ballast	0.1110	400 Watts Incandescent Lamp	0.4000	$112.24
85 Watt Pin Based CFL Magnetic Ballast	0.1110	500 Watts Incandescent Lamp	0.5000	$112.24
85 Watt Screw In CFL Integral Ballast	0.0850	250 Watts Incandescent Lamp	0.2500	$16.00
85 Watt Screw In CFL Integral Ballast	0.0850	300 Watts Incandescent Lamp	0.3000	$16.00
85 Watt Screw In CFL Integral Ballast	0.0850	350 Watts Incandescent Lamp	0.3500	$16.00
85 Watt Screw In CFL Integral Ballast	0.0850	400 Watts Incandescent Lamp	0.4000	$16.00
85 Watt Screw In CFL Integral Ballast	0.0850	500 Watts Incandescent Lamp	0.5000	$16.00
86 Watt Pin Based CFL Electronic Ballast	0.0910	250 Watts Incandescent Lamp	0.2500	$102.62
86 Watt Pin Based CFL Electronic Ballast	0.0910	300 Watts Incandescent Lamp	0.3000	$102.62
86 Watt Pin Based CFL Electronic Ballast	0.0910	350 Watts Incandescent Lamp	0.3500	$102.62
86 Watt Pin Based CFL Electronic Ballast	0.0910	400 Watts Incandescent Lamp	0.4000	$102.62
86 Watt Pin Based CFL Electronic Ballast	0.0910	500 Watts Incandescent Lamp	0.5000	$102.62
86 Watt Pin Based CFL Magnetic Ballast	0.1123	250 Watts Incandescent Lamp	0.2500	$112.24
86 Watt Pin Based CFL Magnetic Ballast	0.1123	300 Watts Incandescent Lamp	0.3000	$112.24
86 Watt Pin Based CFL Magnetic Ballast	0.1123	350 Watts Incandescent Lamp	0.3500	$112.24
86 Watt Pin Based CFL Magnetic Ballast	0.1123	400 Watts Incandescent Lamp	0.4000	$112.24
86 Watt Pin Based CFL Magnetic Ballast	0.1123	500 Watts Incandescent Lamp	0.5000	$112.24
86 Watt Screw In CFL Integral Ballast	0.0860	250 Watts Incandescent Lamp	0.2500	$16.00
86 Watt Screw In CFL Integral Ballast	0.0860	300 Watts Incandescent Lamp	0.3000	$16.00
86 Watt Screw In CFL Integral Ballast	0.0860	350 Watts Incandescent Lamp	0.3500	$16.00
86 Watt Screw In CFL Integral Ballast	0.0860	400 Watts Incandescent Lamp	0.4000	$16.00
86 Watt Screw In CFL Integral Ballast	0.0860	500 Watts Incandescent Lamp	0.5000	$16.00
87 Watt Pin Based CFL Electronic Ballast	0.0920	250 Watts Incandescent Lamp	0.2500	$102.62
87 Watt Pin Based CFL Electronic Ballast	0.0920	300 Watts Incandescent Lamp	0.3000	$102.62
87 Watt Pin Based CFL Electronic Ballast	0.0920	350 Watts Incandescent Lamp	0.3500	$102.62
87 Watt Pin Based CFL Electronic Ballast	0.0920	400 Watts Incandescent Lamp	0.4000	$102.62
87 Watt Pin Based CFL Electronic Ballast	0.0920	500 Watts Incandescent Lamp	0.5000	$102.62
87 Watt Pin Based CFL Magnetic Ballast	0.1136	250 Watts Incandescent Lamp	0.2500	$112.24
87 Watt Pin Based CFL Magnetic Ballast	0.1136	300 Watts Incandescent Lamp	0.3000	$112.24
87 Watt Pin Based CFL Magnetic Ballast	0.1136	350 Watts Incandescent Lamp	0.3500	$112.24
87 Watt Pin Based CFL Magnetic Ballast	0.1136	400 Watts Incandescent Lamp	0.4000	$112.24
87 Watt Pin Based CFL Magnetic Ballast	0.1136	500 Watts Incandescent Lamp	0.5000	$112.24
87 Watt Screw In CFL Integral Ballast	0.0870	250 Watts Incandescent Lamp	0.2500	$16.00
87 Watt Screw In CFL Integral Ballast	0.0870	300 Watts Incandescent Lamp	0.3000	$16.00
87 Watt Screw In CFL Integral Ballast	0.0870	350 Watts Incandescent Lamp	0.3500	$16.00
87 Watt Screw In CFL Integral Ballast	0.0870	400 Watts Incandescent Lamp	0.4000	$16.00
87 Watt Screw In CFL Integral Ballast	0.0870	500 Watts Incandescent Lamp	0.5000	$16.00
88 Watt Pin Based CFL Electronic Ballast	0.0931	250 Watts Incandescent Lamp	0.2500	$102.62
88 Watt Pin Based CFL Electronic Ballast	0.0931	300 Watts Incandescent Lamp	0.3000	$102.62
88 Watt Pin Based CFL Electronic Ballast	0.0931	350 Watts Incandescent Lamp	0.3500	$102.62
88 Watt Pin Based CFL Electronic Ballast	0.0931	400 Watts Incandescent Lamp	0.4000	$102.62
88 Watt Pin Based CFL Electronic Ballast	0.0931	500 Watts Incandescent Lamp	0.5000	$102.62
88 Watt Pin Based CFL Magnetic Ballast	0.1149	250 Watts Incandescent Lamp	0.2500	$112.24
88 Watt Pin Based CFL Magnetic Ballast	0.1149	300 Watts Incandescent Lamp	0.3000	$112.24
88 Watt Pin Based CFL Magnetic Ballast	0.1149	350 Watts Incandescent Lamp	0.3500	$112.24
88 Watt Pin Based CFL Magnetic Ballast	0.1149	400 Watts Incandescent Lamp	0.4000	$112.24
88 Watt Pin Based CFL Magnetic Ballast	0.1149	500 Watts Incandescent Lamp	0.5000	$112.24
88 Watt Screw In CFL Integral Ballast	0.0880	250 Watts Incandescent Lamp	0.2500	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
88 Watt Screw In CFL Integral Ballast	0.0880	300 Watts Incandescent Lamp	0.3000	$16.00
88 Watt Screw In CFL Integral Ballast	0.0880	350 Watts Incandescent Lamp	0.3500	$16.00
88 Watt Screw In CFL Integral Ballast	0.0880	400 Watts Incandescent Lamp	0.4000	$16.00
88 Watt Screw In CFL Integral Ballast	0.0880	500 Watts Incandescent Lamp	0.5000	$16.00
89 Watt Pin Based CFL Electronic Ballast	0.0942	250 Watts Incandescent Lamp	0.2500	$102.62
89 Watt Pin Based CFL Electronic Ballast	0.0942	300 Watts Incandescent Lamp	0.3000	$102.62
89 Watt Pin Based CFL Electronic Ballast	0.0942	350 Watts Incandescent Lamp	0.3500	$102.62
89 Watt Pin Based CFL Electronic Ballast	0.0942	400 Watts Incandescent Lamp	0.4000	$102.62
89 Watt Pin Based CFL Electronic Ballast	0.0942	500 Watts Incandescent Lamp	0.5000	$102.62
89 Watt Pin Based CFL Magnetic Ballast	0.1162	250 Watts Incandescent Lamp	0.2500	$112.24
89 Watt Pin Based CFL Magnetic Ballast	0.1162	300 Watts Incandescent Lamp	0.3000	$112.24
89 Watt Pin Based CFL Magnetic Ballast	0.1162	350 Watts Incandescent Lamp	0.3500	$112.24
89 Watt Pin Based CFL Magnetic Ballast	0.1162	400 Watts Incandescent Lamp	0.4000	$112.24
89 Watt Pin Based CFL Magnetic Ballast	0.1162	500 Watts Incandescent Lamp	0.5000	$112.24
89 Watt Screw In CFL Integral Ballast	0.0890	250 Watts Incandescent Lamp	0.2500	$16.00
89 Watt Screw In CFL Integral Ballast	0.0890	300 Watts Incandescent Lamp	0.3000	$16.00
89 Watt Screw In CFL Integral Ballast	0.0890	350 Watts Incandescent Lamp	0.3500	$16.00
89 Watt Screw In CFL Integral Ballast	0.0890	400 Watts Incandescent Lamp	0.4000	$16.00
89 Watt Screw In CFL Integral Ballast	0.0890	500 Watts Incandescent Lamp	0.5000	$16.00
90 Watt Pin Based CFL Electronic Ballast	0.0952	250 Watts Incandescent Lamp	0.2500	$102.62
90 Watt Pin Based CFL Electronic Ballast	0.0952	300 Watts Incandescent Lamp	0.3000	$102.62
90 Watt Pin Based CFL Electronic Ballast	0.0952	350 Watts Incandescent Lamp	0.3500	$102.62
90 Watt Pin Based CFL Electronic Ballast	0.0952	400 Watts Incandescent Lamp	0.4000	$102.62
90 Watt Pin Based CFL Electronic Ballast	0.0952	500 Watts Incandescent Lamp	0.5000	$102.62
90 Watt Pin Based CFL Magnetic Ballast	0.1175	250 Watts Incandescent Lamp	0.2500	$112.24
90 Watt Pin Based CFL Magnetic Ballast	0.1175	300 Watts Incandescent Lamp	0.3000	$112.24
90 Watt Pin Based CFL Magnetic Ballast	0.1175	350 Watts Incandescent Lamp	0.3500	$112.24
90 Watt Pin Based CFL Magnetic Ballast	0.1175	400 Watts Incandescent Lamp	0.4000	$112.24
90 Watt Pin Based CFL Magnetic Ballast	0.1175	500 Watts Incandescent Lamp	0.5000	$112.24
90 Watt Screw In CFL Integral Ballast	0.0900	250 Watts Incandescent Lamp	0.2500	$16.00
90 Watt Screw In CFL Integral Ballast	0.0900	300 Watts Incandescent Lamp	0.3000	$16.00
90 Watt Screw In CFL Integral Ballast	0.0900	350 Watts Incandescent Lamp	0.3500	$16.00
90 Watt Screw In CFL Integral Ballast	0.0900	400 Watts Incandescent Lamp	0.4000	$16.00
90 Watt Screw In CFL Integral Ballast	0.0900	500 Watts Incandescent Lamp	0.5000	$16.00
91 Watt Pin Based CFL Electronic Ballast	0.0963	250 Watts Incandescent Lamp	0.2500	$102.62
91 Watt Pin Based CFL Electronic Ballast	0.0963	300 Watts Incandescent Lamp	0.3000	$102.62
91 Watt Pin Based CFL Electronic Ballast	0.0963	350 Watts Incandescent Lamp	0.3500	$102.62
91 Watt Pin Based CFL Electronic Ballast	0.0963	400 Watts Incandescent Lamp	0.4000	$102.62
91 Watt Pin Based CFL Electronic Ballast	0.0963	500 Watts Incandescent Lamp	0.5000	$102.62
91 Watt Pin Based CFL Magnetic Ballast	0.1188	250 Watts Incandescent Lamp	0.2500	$112.24
91 Watt Pin Based CFL Magnetic Ballast	0.1188	300 Watts Incandescent Lamp	0.3000	$112.24
91 Watt Pin Based CFL Magnetic Ballast	0.1188	350 Watts Incandescent Lamp	0.3500	$112.24
91 Watt Pin Based CFL Magnetic Ballast	0.1188	400 Watts Incandescent Lamp	0.4000	$112.24
91 Watt Pin Based CFL Magnetic Ballast	0.1188	500 Watts Incandescent Lamp	0.5000	$112.24
91 Watt Screw In CFL Integral Ballast	0.0910	250 Watts Incandescent Lamp	0.2500	$16.00
91 Watt Screw In CFL Integral Ballast	0.0910	300 Watts Incandescent Lamp	0.3000	$16.00
91 Watt Screw In CFL Integral Ballast	0.0910	350 Watts Incandescent Lamp	0.3500	$16.00
91 Watt Screw In CFL Integral Ballast	0.0910	400 Watts Incandescent Lamp	0.4000	$16.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
91 Watt Screw In CFL Integral Ballast	0.0910	500 Watts Incandescent Lamp	0.5000	$16.00
92 Watt Pin Based CFL Electronic Ballast	0.0973	250 Watts Incandescent Lamp	0.2500	$102.62
92 Watt Pin Based CFL Electronic Ballast	0.0973	300 Watts Incandescent Lamp	0.3000	$102.62
92 Watt Pin Based CFL Electronic Ballast	0.0973	350 Watts Incandescent Lamp	0.3500	$102.62
92 Watt Pin Based CFL Electronic Ballast	0.0973	400 Watts Incandescent Lamp	0.4000	$102.62
92 Watt Pin Based CFL Electronic Ballast	0.0973	500 Watts Incandescent Lamp	0.5000	$102.62
92 Watt Pin Based CFL Magnetic Ballast	0.1202	250 Watts Incandescent Lamp	0.2500	$112.24
92 Watt Pin Based CFL Magnetic Ballast	0.1202	300 Watts Incandescent Lamp	0.3000	$112.24
92 Watt Pin Based CFL Magnetic Ballast	0.1202	350 Watts Incandescent Lamp	0.3500	$112.24
92 Watt Pin Based CFL Magnetic Ballast	0.1202	400 Watts Incandescent Lamp	0.4000	$112.24
92 Watt Pin Based CFL Magnetic Ballast	0.1202	500 Watts Incandescent Lamp	0.5000	$112.24
92 Watt Screw In CFL Integral Ballast	0.0920	250 Watts Incandescent Lamp	0.2500	$16.00
92 Watt Screw In CFL Integral Ballast	0.0920	300 Watts Incandescent Lamp	0.3000	$16.00
92 Watt Screw In CFL Integral Ballast	0.0920	350 Watts Incandescent Lamp	0.3500	$16.00
92 Watt Screw In CFL Integral Ballast	0.0920	400 Watts Incandescent Lamp	0.4000	$16.00
92 Watt Screw In CFL Integral Ballast	0.0920	500 Watts Incandescent Lamp	0.5000	$16.00
93 Watt Pin Based CFL Electronic Ballast	0.0984	250 Watts Incandescent Lamp	0.2500	$102.62
93 Watt Pin Based CFL Electronic Ballast	0.0984	300 Watts Incandescent Lamp	0.3000	$102.62
93 Watt Pin Based CFL Electronic Ballast	0.0984	350 Watts Incandescent Lamp	0.3500	$102.62
93 Watt Pin Based CFL Electronic Ballast	0.0984	400 Watts Incandescent Lamp	0.4000	$102.62
93 Watt Pin Based CFL Electronic Ballast	0.0984	500 Watts Incandescent Lamp	0.5000	$102.62
93 Watt Pin Based CFL Magnetic Ballast	0.1215	250 Watts Incandescent Lamp	0.2500	$112.24
93 Watt Pin Based CFL Magnetic Ballast	0.1215	300 Watts Incandescent Lamp	0.3000	$112.24
93 Watt Pin Based CFL Magnetic Ballast	0.1215	350 Watts Incandescent Lamp	0.3500	$112.24
93 Watt Pin Based CFL Magnetic Ballast	0.1215	400 Watts Incandescent Lamp	0.4000	$112.24
93 Watt Pin Based CFL Magnetic Ballast	0.1215	500 Watts Incandescent Lamp	0.5000	$112.24
93 Watt Screw In CFL Integral Ballast	0.0930	250 Watts Incandescent Lamp	0.2500	$16.00
93 Watt Screw In CFL Integral Ballast	0.0930	300 Watts Incandescent Lamp	0.3000	$16.00
93 Watt Screw In CFL Integral Ballast	0.0930	350 Watts Incandescent Lamp	0.3500	$16.00
93 Watt Screw In CFL Integral Ballast	0.0930	400 Watts Incandescent Lamp	0.4000	$16.00
93 Watt Screw In CFL Integral Ballast	0.0930	500 Watts Incandescent Lamp	0.5000	$16.00
94 Watt Pin Based CFL Electronic Ballast	0.0995	250 Watts Incandescent Lamp	0.2500	$102.62
94 Watt Pin Based CFL Electronic Ballast	0.0995	300 Watts Incandescent Lamp	0.3000	$102.62
94 Watt Pin Based CFL Electronic Ballast	0.0995	350 Watts Incandescent Lamp	0.3500	$102.62
94 Watt Pin Based CFL Electronic Ballast	0.0995	400 Watts Incandescent Lamp	0.4000	$102.62
94 Watt Pin Based CFL Electronic Ballast	0.0995	500 Watts Incandescent Lamp	0.5000	$102.62
94 Watt Pin Based CFL Magnetic Ballast	0.1228	250 Watts Incandescent Lamp	0.2500	$112.24
94 Watt Pin Based CFL Magnetic Ballast	0.1228	300 Watts Incandescent Lamp	0.3000	$112.24
94 Watt Pin Based CFL Magnetic Ballast	0.1228	350 Watts Incandescent Lamp	0.3500	$112.24
94 Watt Pin Based CFL Magnetic Ballast	0.1228	400 Watts Incandescent Lamp	0.4000	$112.24
94 Watt Pin Based CFL Magnetic Ballast	0.1228	500 Watts Incandescent Lamp	0.5000	$112.24
94 Watt Screw In CFL Integral Ballast	0.0940	250 Watts Incandescent Lamp	0.2500	$16.00
94 Watt Screw In CFL Integral Ballast	0.0940	300 Watts Incandescent Lamp	0.3000	$16.00
94 Watt Screw In CFL Integral Ballast	0.0940	350 Watts Incandescent Lamp	0.3500	$16.00
94 Watt Screw In CFL Integral Ballast	0.0940	400 Watts Incandescent Lamp	0.4000	$16.00
94 Watt Screw In CFL Integral Ballast	0.0940	500 Watts Incandescent Lamp	0.5000	$16.00
95 Watt Pin Based CFL Electronic Ballast	0.1005	250 Watts Incandescent Lamp	0.2500	$102.62
95 Watt Pin Based CFL Electronic Ballast	0.1005	300 Watts Incandescent Lamp	0.3000	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
95 Watt Pin Based CFL Electronic Ballast	0.1005	350 Watts Incandescent Lamp	0.3500	$102.62
95 Watt Pin Based CFL Electronic Ballast	0.1005	400 Watts Incandescent Lamp	0.4000	$102.62
95 Watt Pin Based CFL Electronic Ballast	0.1005	500 Watts Incandescent Lamp	0.5000	$102.62
95 Watt Pin Based CFL Magnetic Ballast	0.1241	250 Watts Incandescent Lamp	0.2500	$112.24
95 Watt Pin Based CFL Magnetic Ballast	0.1241	300 Watts Incandescent Lamp	0.3000	$112.24
95 Watt Pin Based CFL Magnetic Ballast	0.1241	350 Watts Incandescent Lamp	0.3500	$112.24
95 Watt Pin Based CFL Magnetic Ballast	0.1241	400 Watts Incandescent Lamp	0.4000	$112.24
95 Watt Pin Based CFL Magnetic Ballast	0.1241	500 Watts Incandescent Lamp	0.5000	$112.24
95 Watt Screw In CFL Integral Ballast	0.0950	250 Watts Incandescent Lamp	0.2500	$16.00
95 Watt Screw In CFL Integral Ballast	0.0950	300 Watts Incandescent Lamp	0.3000	$16.00
95 Watt Screw In CFL Integral Ballast	0.0950	350 Watts Incandescent Lamp	0.3500	$16.00
95 Watt Screw In CFL Integral Ballast	0.0950	400 Watts Incandescent Lamp	0.4000	$16.00
95 Watt Screw In CFL Integral Ballast	0.0950	500 Watts Incandescent Lamp	0.5000	$16.00
96 Watt Pin Based CFL Electronic Ballast	0.1016	250 Watts Incandescent Lamp	0.2500	$102.62
96 Watt Pin Based CFL Electronic Ballast	0.1016	300 Watts Incandescent Lamp	0.3000	$102.62
96 Watt Pin Based CFL Electronic Ballast	0.1016	350 Watts Incandescent Lamp	0.3500	$102.62
96 Watt Pin Based CFL Electronic Ballast	0.1016	400 Watts Incandescent Lamp	0.4000	$102.62
96 Watt Pin Based CFL Electronic Ballast	0.1016	500 Watts Incandescent Lamp	0.5000	$102.62
96 Watt Pin Based CFL Magnetic Ballast	0.1254	250 Watts Incandescent Lamp	0.2500	$112.24
96 Watt Pin Based CFL Magnetic Ballast	0.1254	300 Watts Incandescent Lamp	0.3000	$112.24
96 Watt Pin Based CFL Magnetic Ballast	0.1254	350 Watts Incandescent Lamp	0.3500	$112.24
96 Watt Pin Based CFL Magnetic Ballast	0.1254	400 Watts Incandescent Lamp	0.4000	$112.24
96 Watt Pin Based CFL Magnetic Ballast	0.1254	500 Watts Incandescent Lamp	0.5000	$112.24
96 Watt Screw In CFL Integral Ballast	0.0960	250 Watts Incandescent Lamp	0.2500	$16.00
96 Watt Screw In CFL Integral Ballast	0.0960	300 Watts Incandescent Lamp	0.3000	$16.00
96 Watt Screw In CFL Integral Ballast	0.0960	350 Watts Incandescent Lamp	0.3500	$16.00
96 Watt Screw In CFL Integral Ballast	0.0960	400 Watts Incandescent Lamp	0.4000	$16.00
96 Watt Screw In CFL Integral Ballast	0.0960	500 Watts Incandescent Lamp	0.5000	$16.00
97 Watt Pin Based CFL Electronic Ballast	0.1026	250 Watts Incandescent Lamp	0.2500	$102.62
97 Watt Pin Based CFL Electronic Ballast	0.1026	300 Watts Incandescent Lamp	0.3000	$102.62
97 Watt Pin Based CFL Electronic Ballast	0.1026	350 Watts Incandescent Lamp	0.3500	$102.62
97 Watt Pin Based CFL Electronic Ballast	0.1026	400 Watts Incandescent Lamp	0.4000	$102.62
97 Watt Pin Based CFL Electronic Ballast	0.1026	500 Watts Incandescent Lamp	0.5000	$102.62
97 Watt Pin Based CFL Magnetic Ballast	0.1267	250 Watts Incandescent Lamp	0.2500	$112.24
97 Watt Pin Based CFL Magnetic Ballast	0.1267	300 Watts Incandescent Lamp	0.3000	$112.24
97 Watt Pin Based CFL Magnetic Ballast	0.1267	350 Watts Incandescent Lamp	0.3500	$112.24
97 Watt Pin Based CFL Magnetic Ballast	0.1267	400 Watts Incandescent Lamp	0.4000	$112.24
97 Watt Pin Based CFL Magnetic Ballast	0.1267	500 Watts Incandescent Lamp	0.5000	$112.24
97 Watt Screw In CFL Integral Ballast	0.0970	250 Watts Incandescent Lamp	0.2500	$16.00
97 Watt Screw In CFL Integral Ballast	0.0970	300 Watts Incandescent Lamp	0.3000	$16.00
97 Watt Screw In CFL Integral Ballast	0.0970	350 Watts Incandescent Lamp	0.3500	$16.00
97 Watt Screw In CFL Integral Ballast	0.0970	400 Watts Incandescent Lamp	0.4000	$16.00
97 Watt Screw In CFL Integral Ballast	0.0970	500 Watts Incandescent Lamp	0.5000	$16.00
98 Watt Pin Based CFL Electronic Ballast	0.1037	250 Watts Incandescent Lamp	0.2500	$102.62
98 Watt Pin Based CFL Electronic Ballast	0.1037	300 Watts Incandescent Lamp	0.3000	$102.62
98 Watt Pin Based CFL Electronic Ballast	0.1037	350 Watts Incandescent Lamp	0.3500	$102.62
98 Watt Pin Based CFL Electronic Ballast	0.1037	400 Watts Incandescent Lamp	0.4000	$102.62
98 Watt Pin Based CFL Electronic Ballast	0.1037	500 Watts Incandescent Lamp	0.5000	$102.62

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
98 Watt Pin Based CFL Magnetic Ballast	0.1280	250 Watts Incandescent Lamp	0.2500	$112.24
98 Watt Pin Based CFL Magnetic Ballast	0.1280	300 Watts Incandescent Lamp	0.3000	$112.24
98 Watt Pin Based CFL Magnetic Ballast	0.1280	350 Watts Incandescent Lamp	0.3500	$112.24
98 Watt Pin Based CFL Magnetic Ballast	0.1280	400 Watts Incandescent Lamp	0.4000	$112.24
98 Watt Pin Based CFL Magnetic Ballast	0.1280	500 Watts Incandescent Lamp	0.5000	$112.24
98 Watt Screw In CFL Integral Ballast	0.0980	250 Watts Incandescent Lamp	0.2500	$16.00
98 Watt Screw In CFL Integral Ballast	0.0980	300 Watts Incandescent Lamp	0.3000	$16.00
98 Watt Screw In CFL Integral Ballast	0.0980	350 Watts Incandescent Lamp	0.3500	$16.00
98 Watt Screw In CFL Integral Ballast	0.0980	400 Watts Incandescent Lamp	0.4000	$16.00
98 Watt Screw In CFL Integral Ballast	0.0980	500 Watts Incandescent Lamp	0.5000	$16.00
99 Watt Pin Based CFL Electronic Ballast	0.1047	250 Watts Incandescent Lamp	0.2500	$102.62
99 Watt Pin Based CFL Electronic Ballast	0.1047	300 Watts Incandescent Lamp	0.3000	$102.62
99 Watt Pin Based CFL Electronic Ballast	0.1047	350 Watts Incandescent Lamp	0.3500	$102.62
99 Watt Pin Based CFL Electronic Ballast	0.1047	400 Watts Incandescent Lamp	0.4000	$102.62
99 Watt Pin Based CFL Electronic Ballast	0.1047	500 Watts Incandescent Lamp	0.5000	$102.62
99 Watt Pin Based CFL Magnetic Ballast	0.1293	250 Watts Incandescent Lamp	0.2500	$112.24
99 Watt Pin Based CFL Magnetic Ballast	0.1293	300 Watts Incandescent Lamp	0.3000	$112.24
99 Watt Pin Based CFL Magnetic Ballast	0.1293	350 Watts Incandescent Lamp	0.3500	$112.24
99 Watt Pin Based CFL Magnetic Ballast	0.1293	400 Watts Incandescent Lamp	0.4000	$112.24
99 Watt Pin Based CFL Magnetic Ballast	0.1293	500 Watts Incandescent Lamp	0.5000	$112.24
99 Watt Screw In CFL Integral Ballast	0.0990	250 Watts Incandescent Lamp	0.2500	$16.00
99 Watt Screw In CFL Integral Ballast	0.0990	300 Watts Incandescent Lamp	0.3000	$16.00
99 Watt Screw In CFL Integral Ballast	0.0990	350 Watts Incandescent Lamp	0.3500	$16.00
99 Watt Screw In CFL Integral Ballast	0.0990	400 Watts Incandescent Lamp	0.4000	$16.00
99 Watt Screw In CFL Integral Ballast	0.0990	500 Watts Incandescent Lamp	0.5000	$16.00
100 Watt Pin Based CFL Electronic Ballast	0.1058	250 Watts Incandescent Lamp	0.2500	$102.62
100 Watt Pin Based CFL Electronic Ballast	0.1058	300 Watts Incandescent Lamp	0.3000	$102.62
100 Watt Pin Based CFL Electronic Ballast	0.1058	350 Watts Incandescent Lamp	0.3500	$102.62
100 Watt Pin Based CFL Electronic Ballast	0.1058	400 Watts Incandescent Lamp	0.4000	$102.62
100 Watt Pin Based CFL Electronic Ballast	0.1058	500 Watts Incandescent Lamp	0.5000	$102.62
100 Watt Pin Based CFL Magnetic Ballast	0.1306	250 Watts Incandescent Lamp	0.2500	$112.24
100 Watt Pin Based CFL Magnetic Ballast	0.1306	300 Watts Incandescent Lamp	0.3000	$112.24
100 Watt Pin Based CFL Magnetic Ballast	0.1306	350 Watts Incandescent Lamp	0.3500	$112.24
100 Watt Pin Based CFL Magnetic Ballast	0.1306	400 Watts Incandescent Lamp	0.4000	$112.24
100 Watt Pin Based CFL Magnetic Ballast	0.1306	500 Watts Incandescent Lamp	0.5000	$112.24
100 Watt Screw In CFL Integral Ballast	0.1000	250 Watts Incandescent Lamp	0.2500	$16.00
100 Watt Screw In CFL Integral Ballast	0.1000	300 Watts Incandescent Lamp	0.3000	$16.00
100 Watt Screw In CFL Integral Ballast	0.1000	350 Watts Incandescent Lamp	0.3500	$16.00
100 Watt Screw In CFL Integral Ballast	0.1000	400 Watts Incandescent Lamp	0.4000	$16.00
100 Watt Screw In CFL Integral Ballast	0.1000	500 Watts Incandescent Lamp	0.5000	$16.00
Ceramic Metal Halide, 1-PAR 39W, electronic ballast	0.0450	Incandescent, 1-R 150W	0.1500	$165.95
Ceramic Metal Halide, 1-SE 150W, electronic ballast	0.1680	Incandescent, 1-PS40 500W	0.5000	$152.45
Ceramic Metal Halide, 1-SE 175W, electronic ballast	0.1890	High Pressure Sodium, 250W, magnetic ballast	0.2950	$222.00
Ceramic Metal Halide, 1-SE 175W, electronic ballast	0.1890	Mercury Vapor, 250W, magnetic ballast	0.2950	$222.00
Ceramic Metal Halide, 1-SE 20W, 1-ELEC	0.0250	Incandescent, 1-R 100W	0.0750	$45.00
Ceramic Metal Halide, 1-SE 20W, electronic ballast	0.0250	Incandescent, 1-R 75W	0.0750	$57.00
Ceramic Metal Halide, 1-SE 20W, electronic ballast	0.0250	Incandescent, 1-R 100W	0.1000	$137.36
Ceramic Metal Halide, 1-SE 20W, electronic ballast	0.0250	Incandescent, 1-R 120W	0.1200	$136.36

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
Ceramic Metal Halide, 1-SE 20W, electronic ballast	0.0250	Incandescent, 1-PAR 150W	0.1500	$131.86
Ceramic Metal Halide, 1-SE 250W, electronic ballast	0.2750	Mercury Vapor, 400W, magnetic ballast	0.4540	$280.00
Ceramic Metal Halide, 1-SE 250W, electronic ballast	0.2750	High Pressure Sodium, 400W lamp	0.4570	$280.00
Ceramic Metal Halide, 320W, electronic ballast	0.3490	400W Metal Halide, magnetic ballast	0.4560	$292.00
Ceramic Metal Halide, 320W, electronic ballast	0.3490	Mercury Vapor, 400W, magnetic ballast	0.4540	$292.00
Ceramic Metal Halide, 320W, electronic ballast	0.3490	High Pressure Sodium, 400W lamp	0.4570	$292.00
Ceramic Metal Halide, 350W, electronic ballast	0.3800	Mercury Vapor, 400W, magnetic ballast	0.4540	$292.00
Ceramic Metal Halide, 350W, electronic ballast	0.3800	High Pressure Sodium, 400W lamp	0.4570	$292.00
Ceramic Metal Halide, 400W, electronic ballast	0.4350	Mercury Vapor, 1000W lamp	1.0800	$292.00
Ceramic Metal Halide, 400W, electronic ballast	0.4350	High Pressure Sodium, 1000W lamp	1.1000	$292.00
Ceramic Metal Halide, 400W, electronic ballast	0.4350	Pulse Start Metal Halide, (1) 1000W lamp	1.0800	$292.00
F32T8 25W Lamp	0.0213	F32T8 32W Lamp	0.0272	$2.00
F32T8 28W Lamp	0.0238	F32T8 32W Lamp	0.0272	$2.00
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0470	(1) F96T12ES 8' 60W lamp, electronic ballast	0.0670	$93.45
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0470	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0750	$93.45
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0470	(1) T12 8 foot 110W Lamp with Electronic ballast	0.1190	$93.45
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0470	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1206	$93.45
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0470	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0670	$93.45
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0470	(1) T12 8 foot 75W Lamp with magnetic ballast	0.0941	$93.45
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0470	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.1200	$93.45
Fluorescent, (2) 96", T-8 lamp, low power factor electronic ballast	0.0940	(2) F96T12ES 8' 60W lamps, energy savings magnetic ballast	0.1130	$103.45
Fluorescent, (2) 96", T-8 lamp, low power factor electronic ballast	0.0940	(2) F96T12ES 8' 60W lamps, electronic ballast	0.1050	$103.45
Fluorescent, (2) 96", T-8 lamp, low power factor electronic ballast	0.0940	(2) T12 8 foot 110W Lamp with Electronic ballast	0.2050	$103.45
Fluorescent, (2) 96", T-8 lamp, low power factor electronic ballast	0.0940	(2) T12 8 foot 110W Lamp with ES Magnetic ballast	0.2376	$103.45
Fluorescent, (2) 96", T-8 lamp, low power factor electronic ballast	0.0940	(2) T12 8 foot 75W Lamp with Electronic ballast	0.1330	$103.45
Fluorescent, (2) 96", T-8 lamp, low power factor electronic ballast	0.0940	(2) T12 8 foot 75W Lamp with magnetic ballast	0.1450	$103.45
Fluorescent, (2) 96", T-8 lamp, low power factor electronic ballast	0.0940	(2) T12 8 foot 95W Lamp with Electronic ballast	0.1700	$103.45
Fluorescent, (2) 96", T-8 lamp, low power factor electronic ballast	0.0940	(2) T12 8 foot 95W Lamp with Magnetic ballast	0.2028	$103.45
(2) F54T5/HO 45.8" lamps with a ~1.0 ballast factor electronic ballast, high bay	0.1170	Metal Halide, (1) 175W lamp	0.2150	$192.88
(3) F54T5/HO 45.8" lamps with a ~1.0 ballast factor electronic ballast, high bay	0.1790	Metal Halide, (1) 175W lamp	0.2150	$222.17
(4) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.1120	Metal Halide, (1) 175W lamp	0.2150	$153.00
1 Watt Interior LED Lamp	0.0010	3 Watt Incandescent Lamp	0.0030	$33.91
1 Watt Interior LED Lamp	0.0010	4 Watt Incandescent Lamp	0.0040	$33.91
1 Watt Interior LED Lamp	0.0010	5 Watt Incandescent Lamp	0.0050	$33.91
1 Watt Interior LED Lamp	0.0010	6 Watt Incandescent Lamp	0.0060	$33.91
2 Watt Interior LED Lamp	0.0020	6 Watt Incandescent Lamp	0.0060	$33.91
2 Watt Interior LED Lamp	0.0020	7 Watt Incandescent Lamp	0.0070	$33.91
2 Watt Interior LED Lamp	0.0020	8 Watt Incandescent Lamp	0.0080	$33.91
2 Watt Interior LED Lamp	0.0020	9 Watt Incandescent Lamp	0.0090	$33.91
2 Watt Interior LED Lamp	0.0020	10 Watt Incandescent Lamp	0.0100	$33.91
3 Watt Interior LED Lamp	0.0030	9 Watt Incandescent Lamp	0.0090	$33.91
3 Watt Interior LED Lamp	0.0030	10 Watt Incandescent Lamp	0.0100	$33.91
3 Watt Interior LED Lamp	0.0030	15 Watt Incandescent Lamp	0.0150	$33.91
3 Watt Interior LED Lamp	0.0030	20 Watt Incandescent Lamp	0.0200	$33.91
4 Watt Interior LED Lamp	0.0040	10 Watt Incandescent Lamp	0.0100	$33.91
4 Watt Interior LED Lamp	0.0040	15 Watt Incandescent Lamp	0.0150	$33.91
4 Watt Interior LED Lamp	0.0040	20 Watt Incandescent Lamp	0.0200	$33.91

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
4 Watt Interior LED Lamp	0.0040	25 Watt Incandescent Lamp	0.0250	$33.91
5 Watt Interior LED Lamp	0.0050	15 Watt Incandescent Lamp	0.0150	$33.91
5 Watt Interior LED Lamp	0.0050	20 Watt Incandescent Lamp	0.0200	$33.91
5 Watt Interior LED Lamp	0.0050	25 Watt Incandescent Lamp	0.0250	$33.91
5 Watt Interior LED Lamp	0.0050	30 Watt Incandescent Lamp	0.0300	$33.91
6 Watt Interior LED Lamp	0.0060	20 Watt Incandescent Lamp	0.0200	$39.79
6 Watt Interior LED Lamp	0.0060	25 Watt Incandescent Lamp	0.0250	$39.79
6 Watt Interior LED Lamp	0.0060	30 Watt Incandescent Lamp	0.0300	$39.79
6 Watt Interior LED Lamp	0.0060	35 Watt Incandescent Lamp	0.0350	$39.79
7 Watt Interior LED Lamp	0.0070	20 Watt Incandescent Lamp	0.0200	$39.79
7 Watt Interior LED Lamp	0.0070	25 Watt Incandescent Lamp	0.0250	$39.79
7 Watt Interior LED Lamp	0.0070	30 Watt Incandescent Lamp	0.0300	$39.79
7 Watt Interior LED Lamp	0.0070	35 Watt Incandescent Lamp	0.0350	$39.79
7 Watt Interior LED Lamp	0.0070	40 Watt Incandescent Lamp	0.0400	$39.79
8 Watt Interior LED Lamp	0.0080	25 Watt Incandescent Lamp	0.0250	$39.79
8 Watt Interior LED Lamp	0.0080	30 Watt Incandescent Lamp	0.0300	$39.79
8 Watt Interior LED Lamp	0.0080	35 Watt Incandescent Lamp	0.0350	$39.79
8 Watt Interior LED Lamp	0.0080	40 Watt Incandescent Lamp	0.0400	$39.79
8 Watt Interior LED Lamp	0.0080	45 Watt Incandescent Lamp	0.0450	$39.79
8 Watt Interior LED Lamp	0.0080	50 Watt Incandescent Lamp	0.0500	$39.79
9 Watt Interior LED Lamp	0.0090	25 Watt Incandescent Lamp	0.0250	$39.79
9 Watt Interior LED Lamp	0.0090	30 Watt Incandescent Lamp	0.0300	$39.79
9 Watt Interior LED Lamp	0.0090	35 Watt Incandescent Lamp	0.0350	$39.79
9 Watt Interior LED Lamp	0.0090	45 Watt Incandescent Lamp	0.0450	$39.79
9 Watt Interior LED Lamp	0.0090	50 Watt Incandescent Lamp	0.0500	$39.79
9 Watt Interior LED Lamp	0.0090	55 Watt Incandescent Lamp	0.0550	$39.79
10 Watt Interior LED Lamp	0.0100	30 Watt Incandescent Lamp	0.0300	$39.79
10 Watt Interior LED Lamp	0.0100	35 Watt Incandescent Lamp	0.0350	$39.79
10 Watt Interior LED Lamp	0.0100	40 Watt Incandescent Lamp	0.0400	$39.79
10 Watt Interior LED Lamp	0.0100	45 Watt Incandescent Lamp	0.0450	$39.79
10 Watt Interior LED Lamp	0.0100	50 Watt Incandescent Lamp	0.0500	$39.79
10 Watt Interior LED Lamp	0.0100	55 Watt Incandescent Lamp	0.0550	$39.79
10 Watt Interior LED Lamp	0.0100	60 Watt Incandescent Lamp	0.0600	$39.79
11 Watt Interior LED Lamp	0.0110	35 Watt Incandescent Lamp	0.0350	$64.96
11 Watt Interior LED Lamp	0.0110	40 Watt Incandescent Lamp	0.0400	$64.96
11 Watt Interior LED Lamp	0.0110	45 Watt Incandescent Lamp	0.0450	$64.96
11 Watt Interior LED Lamp	0.0110	50 Watt Incandescent Lamp	0.0500	$64.96
11 Watt Interior LED Lamp	0.0110	55 Watt Incandescent Lamp	0.0550	$64.96
11 Watt Interior LED Lamp	0.0110	60 Watt Incandescent Lamp	0.0600	$64.96
11 Watt Interior LED Lamp	0.0110	65 Watt Incandescent Lamp	0.0650	$64.96
12 Watt Interior LED Lamp	0.0120	35 Watt Incandescent Lamp	0.0350	$64.96
12 Watt Interior LED Lamp	0.0120	40 Watt Incandescent Lamp	0.0400	$64.96
12 Watt Interior LED Lamp	0.0120	45 Watt Incandescent Lamp	0.0450	$64.96
12 Watt Interior LED Lamp	0.0120	50 Watt Incandescent Lamp	0.0500	$64.96
12 Watt Interior LED Lamp	0.0120	55 Watt Incandescent Lamp	0.0550	$64.96
12 Watt Interior LED Lamp	0.0120	60 Watt Incandescent Lamp	0.0600	$64.96
12 Watt Interior LED Lamp	0.0120	65 Watt Incandescent Lamp	0.0650	$64.96
12 Watt Interior LED Lamp	0.0120	70 Watt Incandescent Lamp	0.0700	$64.96

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
13 Watt Interior LED Lamp	0.0130	40 Watt Incandescent Lamp	0.0400	$64.96
13 Watt Interior LED Lamp	0.0130	45 Watt Incandescent Lamp	0.0450	$64.96
13 Watt Interior LED Lamp	0.0130	50 Watt Incandescent Lamp	0.0500	$64.96
13 Watt Interior LED Lamp	0.0130	55 Watt Incandescent Lamp	0.0550	$64.96
13 Watt Interior LED Lamp	0.0130	60 Watt Incandescent Lamp	0.0600	$64.96
13 Watt Interior LED Lamp	0.0130	65 Watt Incandescent Lamp	0.0650	$64.96
13 Watt Interior LED Lamp	0.0130	70 Watt Incandescent Lamp	0.0700	$64.96
13 Watt Interior LED Lamp	0.0130	75 Watt Incandescent Lamp	0.0750	$64.96
13 Watt Interior LED Lamp	0.0130	80 Watt Incandescent Lamp	0.0800	$64.96
14 Watt Interior LED Lamp	0.0140	40 Watt Incandescent Lamp	0.0400	$64.96
14 Watt Interior LED Lamp	0.0140	45 Watt Incandescent Lamp	0.0450	$64.96
14 Watt Interior LED Lamp	0.0140	50 Watt Incandescent Lamp	0.0500	$64.96
14 Watt Interior LED Lamp	0.0140	55 Watt Incandescent Lamp	0.0550	$64.96
14 Watt Interior LED Lamp	0.0140	60 Watt Incandescent Lamp	0.0600	$64.96
14 Watt Interior LED Lamp	0.0140	65 Watt Incandescent Lamp	0.0650	$64.96
14 Watt Interior LED Lamp	0.0140	70 Watt Incandescent Lamp	0.0700	$64.96
14 Watt Interior LED Lamp	0.0140	75 Watt Incandescent Lamp	0.0750	$64.96
14 Watt Interior LED Lamp	0.0140	80 Watt Incandescent Lamp	0.0800	$64.96
14 Watt Interior LED Lamp	0.0140	85 Watt Incandescent Lamp	0.0850	$64.96
15 Watt Interior LED Lamp	0.0150	45 Watt Incandescent Lamp	0.0450	$64.96
15 Watt Interior LED Lamp	0.0150	50 Watt Incandescent Lamp	0.0500	$64.96
15 Watt Interior LED Lamp	0.0150	55 Watt Incandescent Lamp	0.0550	$64.96
15 Watt Interior LED Lamp	0.0150	60 Watt Incandescent Lamp	0.0600	$64.96
15 Watt Interior LED Lamp	0.0150	65 Watt Incandescent Lamp	0.0650	$64.96
15 Watt Interior LED Lamp	0.0150	70 Watt Incandescent Lamp	0.0700	$64.96
15 Watt Interior LED Lamp	0.0150	75 Watt Incandescent Lamp	0.0750	$64.96
15 Watt Interior LED Lamp	0.0150	80 Watt Incandescent Lamp	0.0800	$64.96
15 Watt Interior LED Lamp	0.0150	85 Watt Incandescent Lamp	0.0850	$64.96
15 Watt Interior LED Lamp	0.0150	90 Watt Incandescent Lamp	0.0900	$64.96
16 Watt Interior LED Lamp	0.0160	50 Watt Incandescent Lamp	0.0500	$64.96
16 Watt Interior LED Lamp	0.0160	55 Watt Incandescent Lamp	0.0550	$64.96
16 Watt Interior LED Lamp	0.0160	60 Watt Incandescent Lamp	0.0600	$64.96
16 Watt Interior LED Lamp	0.0160	65 Watt Incandescent Lamp	0.0650	$64.96
16 Watt Interior LED Lamp	0.0160	70 Watt Incandescent Lamp	0.0700	$64.96
16 Watt Interior LED Lamp	0.0160	75 Watt Incandescent Lamp	0.0750	$64.96
16 Watt Interior LED Lamp	0.0160	80 Watt Incandescent Lamp	0.0800	$64.96
16 Watt Interior LED Lamp	0.0160	85 Watt Incandescent Lamp	0.0850	$64.96
16 Watt Interior LED Lamp	0.0160	90 Watt Incandescent Lamp	0.0900	$64.96
16 Watt Interior LED Lamp	0.0160	95 Watt Incandescent Lamp	0.0950	$64.96
17 Watt Interior LED Lamp	0.0170	50 Watt Incandescent Lamp	0.0500	$64.96
17 Watt Interior LED Lamp	0.0170	55 Watt Incandescent Lamp	0.0550	$64.96
17 Watt Interior LED Lamp	0.0170	60 Watt Incandescent Lamp	0.0600	$64.96
17 Watt Interior LED Lamp	0.0170	65 Watt Incandescent Lamp	0.0650	$64.96
17 Watt Interior LED Lamp	0.0170	70 Watt Incandescent Lamp	0.0700	$64.96
17 Watt Interior LED Lamp	0.0170	75 Watt Incandescent Lamp	0.0750	$64.96
17 Watt Interior LED Lamp	0.0170	80 Watt Incandescent Lamp	0.0800	$64.96
17 Watt Interior LED Lamp	0.0170	85 Watt Incandescent Lamp	0.0850	$64.96
17 Watt Interior LED Lamp	0.0170	90 Watt Incandescent Lamp	0.0900	$64.96

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
17 Watt Interior LED Lamp	0.0170	95 Watt Incandescent Lamp	0.0950	$64.96
17 Watt Interior LED Lamp	0.0170	100 Watt Incandescent Lamp	0.1000	$64.96
18 Watt Interior LED Lamp	0.0180	55 Watt Incandescent Lamp	0.0550	$64.96
18 Watt Interior LED Lamp	0.0180	60 Watt Incandescent Lamp	0.0600	$64.96
18 Watt Interior LED Lamp	0.0180	65 Watt Incandescent Lamp	0.0650	$64.96
18 Watt Interior LED Lamp	0.0180	70 Watt Incandescent Lamp	0.0700	$64.96
18 Watt Interior LED Lamp	0.0180	75 Watt Incandescent Lamp	0.0750	$64.96
18 Watt Interior LED Lamp	0.0180	80 Watt Incandescent Lamp	0.0800	$64.96
18 Watt Interior LED Lamp	0.0180	85 Watt Incandescent Lamp	0.0850	$64.96
18 Watt Interior LED Lamp	0.0180	90 Watt Incandescent Lamp	0.0900	$64.96
18 Watt Interior LED Lamp	0.0180	95 Watt Incandescent Lamp	0.0950	$64.96
18 Watt Interior LED Lamp	0.0180	100 Watt Incandescent Lamp	0.1000	$64.96
18 Watt Interior LED Lamp	0.0180	105 Watt Incandescent Lamp	0.1050	$64.96
18 Watt Interior LED Lamp	0.0180	110 Watt Incandescent Lamp	0.1100	$64.96
19 Watt Interior LED Lamp	0.0190	55 Watt Incandescent Lamp	0.0550	$64.96
19 Watt Interior LED Lamp	0.0190	60 Watt Incandescent Lamp	0.0600	$64.96
19 Watt Interior LED Lamp	0.0190	65 Watt Incandescent Lamp	0.0650	$64.96
19 Watt Interior LED Lamp	0.0190	70 Watt Incandescent Lamp	0.0700	$64.96
19 Watt Interior LED Lamp	0.0190	75 Watt Incandescent Lamp	0.0750	$64.96
19 Watt Interior LED Lamp	0.0190	80 Watt Incandescent Lamp	0.0800	$64.96
19 Watt Interior LED Lamp	0.0190	85 Watt Incandescent Lamp	0.0850	$64.96
19 Watt Interior LED Lamp	0.0190	90 Watt Incandescent Lamp	0.0900	$64.96
19 Watt Interior LED Lamp	0.0190	95 Watt Incandescent Lamp	0.0950	$64.96
19 Watt Interior LED Lamp	0.0190	100 Watt Incandescent Lamp	0.1000	$64.96
19 Watt Interior LED Lamp	0.0190	105 Watt Incandescent Lamp	0.1050	$64.96
19 Watt Interior LED Lamp	0.0190	110 Watt Incandescent Lamp	0.1100	$64.96
19 Watt Interior LED Lamp	0.0190	115 Watt Incandescent Lamp	0.1150	$64.96
20 Watt Interior LED Lamp	0.0200	60 Watt Incandescent Lamp	0.0600	$64.96
20 Watt Interior LED Lamp	0.0200	65 Watt Incandescent Lamp	0.0650	$64.96
20 Watt Interior LED Lamp	0.0200	70 Watt Incandescent Lamp	0.0700	$64.96
20 Watt Interior LED Lamp	0.0200	75 Watt Incandescent Lamp	0.0750	$64.96
20 Watt Interior LED Lamp	0.0200	80 Watt Incandescent Lamp	0.0800	$64.96
20 Watt Interior LED Lamp	0.0200	85 Watt Incandescent Lamp	0.0850	$64.96
20 Watt Interior LED Lamp	0.0200	90 Watt Incandescent Lamp	0.0900	$64.96
20 Watt Interior LED Lamp	0.0200	95 Watt Incandescent Lamp	0.0950	$64.96
20 Watt Interior LED Lamp	0.0200	100 Watt Incandescent Lamp	0.1000	$64.96
20 Watt Interior LED Lamp	0.0200	105 Watt Incandescent Lamp	0.1050	$64.96
20 Watt Interior LED Lamp	0.0200	110 Watt Incandescent Lamp	0.1100	$64.96
20 Watt Interior LED Lamp	0.0200	115 Watt Incandescent Lamp	0.1150	$64.96
20 Watt Interior LED Lamp	0.0200	120 Watt Incandescent Lamp	0.1200	$64.96
8 Watt Interior LED Fixture	0.0080	25 Watt Incandescent Fixture	0.0250	$193.47
8 Watt Interior LED Fixture	0.0080	30 Watt Incandescent Fixture	0.0300	$193.47
8 Watt Interior LED Fixture	0.0080	35 Watt Incandescent Fixture	0.0350	$193.47
8 Watt Interior LED Fixture	0.0080	40 Watt Incandescent Fixture	0.0400	$193.47
8 Watt Interior LED Fixture	0.0080	45 Watt Incandescent Fixture	0.0450	$193.47
8 Watt Interior LED Fixture	0.0080	50 Watt Incandescent Fixture	0.0500	$193.47
9 Watt Interior LED Fixture	0.0090	25 Watt Incandescent Fixture	0.0250	$193.47

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
9 Watt Interior LED Fixture	0.0090	30 Watt Incandescent Fixture	0.0300	$193.47
9 Watt Interior LED Fixture	0.0090	35 Watt Incandescent Fixture	0.0350	$193.47
9 Watt Interior LED Fixture	0.0090	45 Watt Incandescent Fixture	0.0450	$193.47
9 Watt Interior LED Fixture	0.0090	50 Watt Incandescent Fixture	0.0500	$193.47
9 Watt Interior LED Fixture	0.0090	55 Watt Incandescent Fixture	0.0550	$193.47
10 Watt Interior LED Fixture	0.0100	30 Watt Incandescent Fixture	0.0300	$193.47
10 Watt Interior LED Fixture	0.0100	35 Watt Incandescent Fixture	0.0350	$193.47
10 Watt Interior LED Fixture	0.0100	40 Watt Incandescent Fixture	0.0400	$193.47
10 Watt Interior LED Fixture	0.0100	45 Watt Incandescent Fixture	0.0450	$193.47
10 Watt Interior LED Fixture	0.0100	50 Watt Incandescent Fixture	0.0500	$193.47
10 Watt Interior LED Fixture	0.0100	55 Watt Incandescent Fixture	0.0550	$193.47
10 Watt Interior LED Fixture	0.0100	60 Watt Incandescent Fixture	0.0600	$193.47
11 Watt Interior LED Fixture	0.0110	35 Watt Incandescent Fixture	0.0350	$193.47
11 Watt Interior LED Fixture	0.0110	40 Watt Incandescent Fixture	0.0400	$193.47
11 Watt Interior LED Fixture	0.0110	45 Watt Incandescent Fixture	0.0450	$193.47
11 Watt Interior LED Fixture	0.0110	50 Watt Incandescent Fixture	0.0500	$193.47
11 Watt Interior LED Fixture	0.0110	55 Watt Incandescent Fixture	0.0550	$193.47
11 Watt Interior LED Fixture	0.0110	60 Watt Incandescent Fixture	0.0600	$193.47
11 Watt Interior LED Fixture	0.0110	65 Watt Incandescent Fixture	0.0650	$193.47
12 Watt Interior LED Fixture	0.0120	35 Watt Incandescent Fixture	0.0350	$193.47
12 Watt Interior LED Fixture	0.0120	40 Watt Incandescent Fixture	0.0400	$193.47
12 Watt Interior LED Fixture	0.0120	45 Watt Incandescent Fixture	0.0450	$193.47
12 Watt Interior LED Fixture	0.0120	50 Watt Incandescent Fixture	0.0500	$193.47
12 Watt Interior LED Fixture	0.0120	55 Watt Incandescent Fixture	0.0550	$193.47
12 Watt Interior LED Fixture	0.0120	60 Watt Incandescent Fixture	0.0600	$193.47
12 Watt Interior LED Fixture	0.0120	65 Watt Incandescent Fixture	0.0650	$193.47
12 Watt Interior LED Fixture	0.0120	70 Watt Incandescent Fixture	0.0700	$193.47
13 Watt Interior LED Fixture	0.0130	40 Watt Incandescent Fixture	0.0400	$193.47
13 Watt Interior LED Fixture	0.0130	45 Watt Incandescent Fixture	0.0450	$193.47
13 Watt Interior LED Fixture	0.0130	50 Watt Incandescent Fixture	0.0500	$193.47
13 Watt Interior LED Fixture	0.0130	55 Watt Incandescent Fixture	0.0550	$193.47
13 Watt Interior LED Fixture	0.0130	60 Watt Incandescent Fixture	0.0600	$193.47
13 Watt Interior LED Fixture	0.0130	65 Watt Incandescent Fixture	0.0650	$193.47
13 Watt Interior LED Fixture	0.0130	70 Watt Incandescent Fixture	0.0700	$193.47
13 Watt Interior LED Fixture	0.0130	75 Watt Incandescent Fixture	0.0750	$193.47
13 Watt Interior LED Fixture	0.0130	80 Watt Incandescent Fixture	0.0800	$193.47
14 Watt Interior LED Fixture	0.0140	40 Watt Incandescent Fixture	0.0400	$193.47
14 Watt Interior LED Fixture	0.0140	45 Watt Incandescent Fixture	0.0450	$193.47
14 Watt Interior LED Fixture	0.0140	50 Watt Incandescent Fixture	0.0500	$193.47
14 Watt Interior LED Fixture	0.0140	55 Watt Incandescent Fixture	0.0550	$193.47
14 Watt Interior LED Fixture	0.0140	60 Watt Incandescent Fixture	0.0600	$193.47
14 Watt Interior LED Fixture	0.0140	65 Watt Incandescent Fixture	0.0650	$193.47
14 Watt Interior LED Fixture	0.0140	70 Watt Incandescent Fixture	0.0700	$193.47
14 Watt Interior LED Fixture	0.0140	75 Watt Incandescent Fixture	0.0750	$193.47
14 Watt Interior LED Fixture	0.0140	80 Watt Incandescent Fixture	0.0800	$193.47
14 Watt Interior LED Fixture	0.0140	85 Watt Incandescent Fixture	0.0850	$193.47
15 Watt Interior LED Fixture	0.0150	45 Watt Incandescent Fixture	0.0450	$193.47
15 Watt Interior LED Fixture	0.0150	50 Watt Incandescent Fixture	0.0500	$193.47

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
15 Watt Interior LED Fixture	0.0150	55 Watt Incandescent Fixture	0.0550	$193.47
15 Watt Interior LED Fixture	0.0150	60 Watt Incandescent Fixture	0.0600	$193.47
15 Watt Interior LED Fixture	0.0150	65 Watt Incandescent Fixture	0.0650	$193.47
15 Watt Interior LED Fixture	0.0150	70 Watt Incandescent Fixture	0.0700	$193.47
15 Watt Interior LED Fixture	0.0150	75 Watt Incandescent Fixture	0.0750	$193.47
15 Watt Interior LED Fixture	0.0150	80 Watt Incandescent Fixture	0.0800	$193.47
15 Watt Interior LED Fixture	0.0150	85 Watt Incandescent Fixture	0.0850	$193.47
15 Watt Interior LED Fixture	0.0150	90 Watt Incandescent Fixture	0.0900	$193.47
16 Watt Interior LED Fixture	0.0160	50 Watt Incandescent Fixture	0.0500	$199.09
16 Watt Interior LED Fixture	0.0160	55 Watt Incandescent Fixture	0.0550	$199.09
16 Watt Interior LED Fixture	0.0160	60 Watt Incandescent Fixture	0.0600	$199.09
16 Watt Interior LED Fixture	0.0160	65 Watt Incandescent Fixture	0.0650	$199.09
16 Watt Interior LED Fixture	0.0160	70 Watt Incandescent Fixture	0.0700	$199.09
16 Watt Interior LED Fixture	0.0160	75 Watt Incandescent Fixture	0.0750	$199.09
16 Watt Interior LED Fixture	0.0160	80 Watt Incandescent Fixture	0.0800	$199.09
16 Watt Interior LED Fixture	0.0160	85 Watt Incandescent Fixture	0.0850	$199.09
16 Watt Interior LED Fixture	0.0160	90 Watt Incandescent Fixture	0.0900	$199.09
16 Watt Interior LED Fixture	0.0160	95 Watt Incandescent Fixture	0.0950	$199.09
17 Watt Interior LED Fixture	0.0170	50 Watt Incandescent Fixture	0.0500	$199.09
17 Watt Interior LED Fixture	0.0170	55 Watt Incandescent Fixture	0.0550	$199.09
17 Watt Interior LED Fixture	0.0170	60 Watt Incandescent Fixture	0.0600	$199.09
17 Watt Interior LED Fixture	0.0170	65 Watt Incandescent Fixture	0.0650	$199.09
17 Watt Interior LED Fixture	0.0170	70 Watt Incandescent Fixture	0.0700	$199.09
17 Watt Interior LED Fixture	0.0170	75 Watt Incandescent Fixture	0.0750	$199.09
17 Watt Interior LED Fixture	0.0170	80 Watt Incandescent Fixture	0.0800	$199.09
17 Watt Interior LED Fixture	0.0170	85 Watt Incandescent Fixture	0.0850	$199.09
17 Watt Interior LED Fixture	0.0170	90 Watt Incandescent Fixture	0.0900	$199.09
17 Watt Interior LED Fixture	0.0170	95 Watt Incandescent Fixture	0.0950	$199.09
17 Watt Interior LED Fixture	0.0170	100 Watt Incandescent Fixture	0.1000	$199.09
18 Watt Interior LED Fixture	0.0180	55 Watt Incandescent Fixture	0.0550	$199.09
18 Watt Interior LED Fixture	0.0180	60 Watt Incandescent Fixture	0.0600	$199.09
18 Watt Interior LED Fixture	0.0180	65 Watt Incandescent Fixture	0.0650	$199.09
18 Watt Interior LED Fixture	0.0180	70 Watt Incandescent Fixture	0.0700	$199.09
18 Watt Interior LED Fixture	0.0180	75 Watt Incandescent Fixture	0.0750	$199.09
18 Watt Interior LED Fixture	0.0180	80 Watt Incandescent Fixture	0.0800	$199.09
18 Watt Interior LED Fixture	0.0180	85 Watt Incandescent Fixture	0.0850	$199.09
18 Watt Interior LED Fixture	0.0180	90 Watt Incandescent Fixture	0.0900	$199.09
18 Watt Interior LED Fixture	0.0180	95 Watt Incandescent Fixture	0.0950	$199.09
18 Watt Interior LED Fixture	0.0180	100 Watt Incandescent Fixture	0.1000	$199.09
18 Watt Interior LED Fixture	0.0180	105 Watt Incandescent Fixture	0.1050	$199.09
18 Watt Interior LED Fixture	0.0180	110 Watt Incandescent Fixture	0.1100	$199.09
19 Watt Interior LED Fixture	0.0190	55 Watt Incandescent Fixture	0.0550	$199.09
19 Watt Interior LED Fixture	0.0190	60 Watt Incandescent Fixture	0.0600	$199.09
19 Watt Interior LED Fixture	0.0190	65 Watt Incandescent Fixture	0.0650	$199.09
19 Watt Interior LED Fixture	0.0190	70 Watt Incandescent Fixture	0.0700	$199.09
19 Watt Interior LED Fixture	0.0190	75 Watt Incandescent Fixture	0.0750	$199.09
19 Watt Interior LED Fixture	0.0190	80 Watt Incandescent Fixture	0.0800	$199.09
19 Watt Interior LED Fixture	0.0190	85 Watt Incandescent Fixture	0.0850	$199.09

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
19 Watt Interior LED Fixture	0.0190	90 Watt Incandescent Fixture	0.0900	$199.09
19 Watt Interior LED Fixture	0.0190	95 Watt Incandescent Fixture	0.0950	$199.09
19 Watt Interior LED Fixture	0.0190	100 Watt Incandescent Fixture	0.1000	$199.09
19 Watt Interior LED Fixture	0.0190	105 Watt Incandescent Fixture	0.1050	$199.09
19 Watt Interior LED Fixture	0.0190	110 Watt Incandescent Fixture	0.1100	$199.09
19 Watt Interior LED Fixture	0.0190	115 Watt Incandescent Fixture	0.1150	$199.09
20 Watt Interior LED Fixture	0.0200	60 Watt Incandescent Fixture	0.0600	$199.09
20 Watt Interior LED Fixture	0.0200	65 Watt Incandescent Fixture	0.0650	$199.09
20 Watt Interior LED Fixture	0.0200	70 Watt Incandescent Fixture	0.0700	$199.09
20 Watt Interior LED Fixture	0.0200	75 Watt Incandescent Fixture	0.0750	$199.09
20 Watt Interior LED Fixture	0.0200	80 Watt Incandescent Fixture	0.0800	$199.09
20 Watt Interior LED Fixture	0.0200	85 Watt Incandescent Fixture	0.0850	$199.09
20 Watt Interior LED Fixture	0.0200	90 Watt Incandescent Fixture	0.0900	$199.09
20 Watt Interior LED Fixture	0.0200	95 Watt Incandescent Fixture	0.0950	$199.09
20 Watt Interior LED Fixture	0.0200	100 Watt Incandescent Fixture	0.1000	$199.09
20 Watt Interior LED Fixture	0.0200	105 Watt Incandescent Fixture	0.1050	$199.09
20 Watt Interior LED Fixture	0.0200	110 Watt Incandescent Fixture	0.1100	$199.09
20 Watt Interior LED Fixture	0.0200	115 Watt Incandescent Fixture	0.1150	$199.09
20 Watt Interior LED Fixture	0.0200	120 Watt Incandescent Fixture	0.1200	$199.09
21 Watt Interior LED Fixture	0.0210	65 Watt Incandescent Fixture	0.0650	$199.09
21 Watt Interior LED Fixture	0.0210	70 Watt Incandescent Fixture	0.0700	$199.09
21 Watt Interior LED Fixture	0.0210	75 Watt Incandescent Fixture	0.0750	$199.09
21 Watt Interior LED Fixture	0.0210	80 Watt Incandescent Fixture	0.0800	$199.09
21 Watt Interior LED Fixture	0.0210	85 Watt Incandescent Fixture	0.0850	$199.09
21 Watt Interior LED Fixture	0.0210	90 Watt Incandescent Fixture	0.0900	$199.09
21 Watt Interior LED Fixture	0.0210	95 Watt Incandescent Fixture	0.0950	$199.09
21 Watt Interior LED Fixture	0.0210	100 Watt Incandescent Fixture	0.1000	$199.09
21 Watt Interior LED Fixture	0.0210	105 Watt Incandescent Fixture	0.1050	$199.09
21 Watt Interior LED Fixture	0.0210	110 Watt Incandescent Fixture	0.1100	$199.09
21 Watt Interior LED Fixture	0.0210	115 Watt Incandescent Fixture	0.1150	$199.09
21 Watt Interior LED Fixture	0.0210	120 Watt Incandescent Fixture	0.1200	$199.09
21 Watt Interior LED Fixture	0.0210	125 Watt Incandescent Fixture	0.1250	$199.09
22 Watt Interior LED Fixture	0.0220	65 Watt Incandescent Fixture	0.0650	$199.09
22 Watt Interior LED Fixture	0.0220	70 Watt Incandescent Fixture	0.0700	$199.09
22 Watt Interior LED Fixture	0.0220	75 Watt Incandescent Fixture	0.0750	$199.09
22 Watt Interior LED Fixture	0.0220	80 Watt Incandescent Fixture	0.0800	$199.09
22 Watt Interior LED Fixture	0.0220	85 Watt Incandescent Fixture	0.0850	$199.09
22 Watt Interior LED Fixture	0.0220	90 Watt Incandescent Fixture	0.0900	$199.09
22 Watt Interior LED Fixture	0.0220	95 Watt Incandescent Fixture	0.0950	$199.09
22 Watt Interior LED Fixture	0.0220	100 Watt Incandescent Fixture	0.1000	$199.09
22 Watt Interior LED Fixture	0.0220	105 Watt Incandescent Fixture	0.1050	$199.09
22 Watt Interior LED Fixture	0.0220	110 Watt Incandescent Fixture	0.1100	$199.09
22 Watt Interior LED Fixture	0.0220	115 Watt Incandescent Fixture	0.1150	$199.09
22 Watt Interior LED Fixture	0.0220	120 Watt Incandescent Fixture	0.1200	$199.09
22 Watt Interior LED Fixture	0.0220	125 Watt Incandescent Fixture	0.1250	$199.09
22 Watt Interior LED Fixture	0.0220	130 Watt Incandescent Fixture	0.1300	$199.09
23 Watt Interior LED Fixture	0.0230	70 Watt Incandescent Fixture	0.0700	$199.09
23 Watt Interior LED Fixture	0.0230	75 Watt Incandescent Fixture	0.0750	$199.09

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
23 Watt Interior LED Fixture	0.0230	80 Watt Incandescent Fixture	0.0800	$199.09
23 Watt Interior LED Fixture	0.0230	85 Watt Incandescent Fixture	0.0850	$199.09
23 Watt Interior LED Fixture	0.0230	90 Watt Incandescent Fixture	0.0900	$199.09
23 Watt Interior LED Fixture	0.0230	95 Watt Incandescent Fixture	0.0950	$199.09
23 Watt Interior LED Fixture	0.0230	100 Watt Incandescent Fixture	0.1000	$199.09
23 Watt Interior LED Fixture	0.0230	105 Watt Incandescent Fixture	0.1050	$199.09
23 Watt Interior LED Fixture	0.0230	110 Watt Incandescent Fixture	0.1100	$199.09
23 Watt Interior LED Fixture	0.0230	115 Watt Incandescent Fixture	0.1150	$199.09
23 Watt Interior LED Fixture	0.0230	120 Watt Incandescent Fixture	0.1200	$199.09
23 Watt Interior LED Fixture	0.0230	125 Watt Incandescent Fixture	0.1250	$199.09
23 Watt Interior LED Fixture	0.0230	130 Watt Incandescent Fixture	0.1300	$199.09
23 Watt Interior LED Fixture	0.0230	135 Watt Incandescent Fixture	0.1350	$199.09
23 Watt Interior LED Fixture	0.0230	140 Watt Incandescent Fixture	0.1400	$199.09
24 Watt Interior LED Fixture	0.0240	70 Watt Incandescent Fixture	0.0700	$199.09
24 Watt Interior LED Fixture	0.0240	75 Watt Incandescent Fixture	0.0750	$199.09
24 Watt Interior LED Fixture	0.0240	80 Watt Incandescent Fixture	0.0800	$199.09
24 Watt Interior LED Fixture	0.0240	85 Watt Incandescent Fixture	0.0850	$199.09
24 Watt Interior LED Fixture	0.0240	90 Watt Incandescent Fixture	0.0900	$199.09
24 Watt Interior LED Fixture	0.0240	95 Watt Incandescent Fixture	0.0950	$199.09
24 Watt Interior LED Fixture	0.0240	100 Watt Incandescent Fixture	0.1000	$199.09
24 Watt Interior LED Fixture	0.0240	105 Watt Incandescent Fixture	0.1050	$199.09
24 Watt Interior LED Fixture	0.0240	110 Watt Incandescent Fixture	0.1100	$199.09
24 Watt Interior LED Fixture	0.0240	115 Watt Incandescent Fixture	0.1150	$199.09
24 Watt Interior LED Fixture	0.0240	120 Watt Incandescent Fixture	0.1200	$199.09
24 Watt Interior LED Fixture	0.0240	125 Watt Incandescent Fixture	0.1250	$199.09
24 Watt Interior LED Fixture	0.0240	130 Watt Incandescent Fixture	0.1300	$199.09
24 Watt Interior LED Fixture	0.0240	135 Watt Incandescent Fixture	0.1350	$199.09
24 Watt Interior LED Fixture	0.0240	140 Watt Incandescent Fixture	0.1400	$199.09
24 Watt Interior LED Fixture	0.0240	145 Watt Incandescent Fixture	0.1450	$199.09
25 Watt Interior LED Fixture	0.0250	75 Watt Incandescent Fixture	0.0750	$199.09
25 Watt Interior LED Fixture	0.0250	80 Watt Incandescent Fixture	0.0800	$199.09
25 Watt Interior LED Fixture	0.0250	85 Watt Incandescent Fixture	0.0850	$199.09
25 Watt Interior LED Fixture	0.0250	90 Watt Incandescent Fixture	0.0900	$199.09
25 Watt Interior LED Fixture	0.0250	95 Watt Incandescent Fixture	0.0950	$199.09
25 Watt Interior LED Fixture	0.0250	100 Watt Incandescent Fixture	0.1000	$199.09
25 Watt Interior LED Fixture	0.0250	105 Watt Incandescent Fixture	0.1050	$199.09
25 Watt Interior LED Fixture	0.0250	110 Watt Incandescent Fixture	0.1100	$199.09
25 Watt Interior LED Fixture	0.0250	115 Watt Incandescent Fixture	0.1150	$199.09
25 Watt Interior LED Fixture	0.0250	120 Watt Incandescent Fixture	0.1200	$199.09
25 Watt Interior LED Fixture	0.0250	125 Watt Incandescent Fixture	0.1250	$199.09
25 Watt Interior LED Fixture	0.0250	130 Watt Incandescent Fixture	0.1300	$199.09
25 Watt Interior LED Fixture	0.0250	135 Watt Incandescent Fixture	0.1350	$199.09
25 Watt Interior LED Fixture	0.0250	140 Watt Incandescent Fixture	0.1400	$199.09
25 Watt Interior LED Fixture	0.0250	145 Watt Incandescent Fixture	0.1450	$199.09
25 Watt Interior LED Fixture	0.0250	150 Watt Incandescent Fixture	0.1500	$199.09
26 Watt Interior LED Fixture	0.0260	80 Watt Incandescent Fixture	0.0800	$272.30
26 Watt Interior LED Fixture	0.0260	85 Watt Incandescent Fixture	0.0850	$272.30
26 Watt Interior LED Fixture	0.0260	90 Watt Incandescent Fixture	0.0900	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
26 Watt Interior LED Fixture	0.0260	95 Watt Incandescent Fixture	0.0950	$272.30
26 Watt Interior LED Fixture	0.0260	100 Watt Incandescent Fixture	0.1000	$272.30
26 Watt Interior LED Fixture	0.0260	105 Watt Incandescent Fixture	0.1050	$272.30
26 Watt Interior LED Fixture	0.0260	110 Watt Incandescent Fixture	0.1100	$272.30
26 Watt Interior LED Fixture	0.0260	115 Watt Incandescent Fixture	0.1150	$272.30
26 Watt Interior LED Fixture	0.0260	120 Watt Incandescent Fixture	0.1200	$272.30
26 Watt Interior LED Fixture	0.0260	125 Watt Incandescent Fixture	0.1250	$272.30
26 Watt Interior LED Fixture	0.0260	130 Watt Incandescent Fixture	0.1300	$272.30
26 Watt Interior LED Fixture	0.0260	135 Watt Incandescent Fixture	0.1350	$272.30
26 Watt Interior LED Fixture	0.0260	140 Watt Incandescent Fixture	0.1400	$272.30
26 Watt Interior LED Fixture	0.0260	145 Watt Incandescent Fixture	0.1450	$272.30
26 Watt Interior LED Fixture	0.0260	150 Watt Incandescent Fixture	0.1500	$272.30
26 Watt Interior LED Fixture	0.0260	155 Watt Incandescent Fixture	0.1550	$272.30
27 Watt Interior LED Fixture	0.0270	80 Watt Incandescent Fixture	0.0800	$272.30
27 Watt Interior LED Fixture	0.0270	85 Watt Incandescent Fixture	0.0850	$272.30
27 Watt Interior LED Fixture	0.0270	90 Watt Incandescent Fixture	0.0900	$272.30
27 Watt Interior LED Fixture	0.0270	95 Watt Incandescent Fixture	0.0950	$272.30
27 Watt Interior LED Fixture	0.0270	100 Watt Incandescent Fixture	0.1000	$272.30
27 Watt Interior LED Fixture	0.0270	110 Watt Incandescent Fixture	0.1100	$272.30
27 Watt Interior LED Fixture	0.0270	115 Watt Incandescent Fixture	0.1150	$272.30
27 Watt Interior LED Fixture	0.0270	120 Watt Incandescent Fixture	0.1200	$272.30
27 Watt Interior LED Fixture	0.0270	125 Watt Incandescent Fixture	0.1250	$272.30
27 Watt Interior LED Fixture	0.0270	130 Watt Incandescent Fixture	0.1300	$272.30
27 Watt Interior LED Fixture	0.0270	135 Watt Incandescent Fixture	0.1350	$272.30
27 Watt Interior LED Fixture	0.0270	140 Watt Incandescent Fixture	0.1400	$272.30
27 Watt Interior LED Fixture	0.0270	145 Watt Incandescent Fixture	0.1450	$272.30
27 Watt Interior LED Fixture	0.0270	150 Watt Incandescent Fixture	0.1500	$272.30
27 Watt Interior LED Fixture	0.0270	155 Watt Incandescent Fixture	0.1550	$272.30
27 Watt Interior LED Fixture	0.0270	160 Watt Incandescent Fixture	0.1600	$272.30
28 Watt Interior LED Fixture	0.0280	85 Watt Incandescent Fixture	0.0850	$272.30
28 Watt Interior LED Fixture	0.0280	90 Watt Incandescent Fixture	0.0900	$272.30
28 Watt Interior LED Fixture	0.0280	95 Watt Incandescent Fixture	0.0950	$272.30
28 Watt Interior LED Fixture	0.0280	100 Watt Incandescent Fixture	0.1000	$272.30
28 Watt Interior LED Fixture	0.0280	105 Watt Incandescent Fixture	0.1050	$272.30
28 Watt Interior LED Fixture	0.0280	110 Watt Incandescent Fixture	0.1100	$272.30
28 Watt Interior LED Fixture	0.0280	115 Watt Incandescent Fixture	0.1150	$272.30
28 Watt Interior LED Fixture	0.0280	120 Watt Incandescent Fixture	0.1200	$272.30
28 Watt Interior LED Fixture	0.0280	125 Watt Incandescent Fixture	0.1250	$272.30
28 Watt Interior LED Fixture	0.0280	130 Watt Incandescent Fixture	0.1300	$272.30
28 Watt Interior LED Fixture	0.0280	135 Watt Incandescent Fixture	0.1350	$272.30
28 Watt Interior LED Fixture	0.0280	140 Watt Incandescent Fixture	0.1400	$272.30
28 Watt Interior LED Fixture	0.0280	145 Watt Incandescent Fixture	0.1450	$272.30
28 Watt Interior LED Fixture	0.0280	150 Watt Incandescent Fixture	0.1500	$272.30
28 Watt Interior LED Fixture	0.0280	155 Watt Incandescent Fixture	0.1550	$272.30
28 Watt Interior LED Fixture	0.0280	160 Watt Incandescent Fixture	0.1600	$272.30
28 Watt Interior LED Fixture	0.0280	165 Watt Incandescent Fixture	0.1650	$272.30
28 Watt Interior LED Fixture	0.0280	170 Watt Incandescent Fixture	0.1700	$272.30
29 Watt Interior LED Fixture	0.0290	85 Watt Incandescent Fixture	0.0850	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
29 Watt Interior LED Fixture	0.0290	90 Watt Incandescent Fixture	0.0900	$272.30
29 Watt Interior LED Fixture	0.0290	95 Watt Incandescent Fixture	0.0950	$272.30
29 Watt Interior LED Fixture	0.0290	100 Watt Incandescent Fixture	0.1000	$272.30
29 Watt Interior LED Fixture	0.0290	105 Watt Incandescent Fixture	0.1050	$272.30
29 Watt Interior LED Fixture	0.0290	110 Watt Incandescent Fixture	0.1100	$272.30
29 Watt Interior LED Fixture	0.0290	115 Watt Incandescent Fixture	0.1150	$272.30
29 Watt Interior LED Fixture	0.0290	120 Watt Incandescent Fixture	0.1200	$272.30
29 Watt Interior LED Fixture	0.0290	125 Watt Incandescent Fixture	0.1250	$272.30
29 Watt Interior LED Fixture	0.0290	130 Watt Incandescent Fixture	0.1300	$272.30
29 Watt Interior LED Fixture	0.0290	135 Watt Incandescent Fixture	0.1350	$272.30
29 Watt Interior LED Fixture	0.0290	140 Watt Incandescent Fixture	0.1400	$272.30
29 Watt Interior LED Fixture	0.0290	145 Watt Incandescent Fixture	0.1450	$272.30
29 Watt Interior LED Fixture	0.0290	150 Watt Incandescent Fixture	0.1500	$272.30
29 Watt Interior LED Fixture	0.0290	155 Watt Incandescent Fixture	0.1550	$272.30
29 Watt Interior LED Fixture	0.0290	160 Watt Incandescent Fixture	0.1600	$272.30
29 Watt Interior LED Fixture	0.0290	165 Watt Incandescent Fixture	0.1650	$272.30
29 Watt Interior LED Fixture	0.0290	170 Watt Incandescent Fixture	0.1700	$272.30
29 Watt Interior LED Fixture	0.0290	175 Watt Incandescent Fixture	0.1750	$272.30
30 Watt Interior LED Fixture	0.0300	90 Watt Incandescent Fixture	0.0900	$272.30
30 Watt Interior LED Fixture	0.0300	95 Watt Incandescent Fixture	0.0950	$272.30
30 Watt Interior LED Fixture	0.0300	100 Watt Incandescent Fixture	0.1000	$272.30
30 Watt Interior LED Fixture	0.0300	105 Watt Incandescent Fixture	0.1050	$272.30
30 Watt Interior LED Fixture	0.0300	110 Watt Incandescent Fixture	0.1100	$272.30
30 Watt Interior LED Fixture	0.0300	115 Watt Incandescent Fixture	0.1150	$272.30
30 Watt Interior LED Fixture	0.0300	120 Watt Incandescent Fixture	0.1200	$272.30
30 Watt Interior LED Fixture	0.0300	125 Watt Incandescent Fixture	0.1250	$272.30
30 Watt Interior LED Fixture	0.0300	130 Watt Incandescent Fixture	0.1300	$272.30
30 Watt Interior LED Fixture	0.0300	135 Watt Incandescent Fixture	0.1350	$272.30
30 Watt Interior LED Fixture	0.0300	140 Watt Incandescent Fixture	0.1400	$272.30
30 Watt Interior LED Fixture	0.0300	145 Watt Incandescent Fixture	0.1450	$272.30
30 Watt Interior LED Fixture	0.0300	150 Watt Incandescent Fixture	0.1500	$272.30
30 Watt Interior LED Fixture	0.0300	155 Watt Incandescent Fixture	0.1550	$272.30
30 Watt Interior LED Fixture	0.0300	160 Watt Incandescent Fixture	0.1600	$272.30
30 Watt Interior LED Fixture	0.0300	165 Watt Incandescent Fixture	0.1650	$272.30
30 Watt Interior LED Fixture	0.0300	170 Watt Incandescent Fixture	0.1700	$272.30
30 Watt Interior LED Fixture	0.0300	175 Watt Incandescent Fixture	0.1750	$272.30
30 Watt Interior LED Fixture	0.0300	180 Watt Incandescent Fixture	0.1800	$272.30
31 Watt Interior LED Fixture	0.0310	95 Watt Incandescent Fixture	0.0950	$272.30
31 Watt Interior LED Fixture	0.0310	100 Watt Incandescent Fixture	0.1000	$272.30
31 Watt Interior LED Fixture	0.0310	105 Watt Incandescent Fixture	0.1050	$272.30
31 Watt Interior LED Fixture	0.0310	110 Watt Incandescent Fixture	0.1100	$272.30
31 Watt Interior LED Fixture	0.0310	115 Watt Incandescent Fixture	0.1150	$272.30
31 Watt Interior LED Fixture	0.0310	120 Watt Incandescent Fixture	0.1200	$272.30
31 Watt Interior LED Fixture	0.0310	125 Watt Incandescent Fixture	0.1250	$272.30
31 Watt Interior LED Fixture	0.0310	130 Watt Incandescent Fixture	0.1300	$272.30
31 Watt Interior LED Fixture	0.0310	135 Watt Incandescent Fixture	0.1350	$272.30
31 Watt Interior LED Fixture	0.0310	140 Watt Incandescent Fixture	0.1400	$272.30
31 Watt Interior LED Fixture	0.0310	145 Watt Incandescent Fixture	0.1450	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
31 Watt Interior LED Fixture	0.0310	150 Watt Incandescent Fixture	0.1500	$272.30
31 Watt Interior LED Fixture	0.0310	155 Watt Incandescent Fixture	0.1550	$272.30
31 Watt Interior LED Fixture	0.0310	160 Watt Incandescent Fixture	0.1600	$272.30
31 Watt Interior LED Fixture	0.0310	165 Watt Incandescent Fixture	0.1650	$272.30
31 Watt Interior LED Fixture	0.0310	170 Watt Incandescent Fixture	0.1700	$272.30
31 Watt Interior LED Fixture	0.0310	175 Watt Incandescent Fixture	0.1750	$272.30
31 Watt Interior LED Fixture	0.0310	180 Watt Incandescent Fixture	0.1800	$272.30
31 Watt Interior LED Fixture	0.0310	185 Watt Incandescent Fixture	0.1850	$272.30
32 Watt Interior LED Fixture	0.0320	95 Watt Incandescent Fixture	0.0950	$272.30
32 Watt Interior LED Fixture	0.0320	100 Watt Incandescent Fixture	0.1000	$272.30
32 Watt Interior LED Fixture	0.0320	105 Watt Incandescent Fixture	0.1050	$272.30
32 Watt Interior LED Fixture	0.0320	110 Watt Incandescent Fixture	0.1100	$272.30
32 Watt Interior LED Fixture	0.0320	115 Watt Incandescent Fixture	0.1150	$272.30
32 Watt Interior LED Fixture	0.0320	120 Watt Incandescent Fixture	0.1200	$272.30
32 Watt Interior LED Fixture	0.0320	125 Watt Incandescent Fixture	0.1250	$272.30
32 Watt Interior LED Fixture	0.0320	130 Watt Incandescent Fixture	0.1300	$272.30
32 Watt Interior LED Fixture	0.0320	135 Watt Incandescent Fixture	0.1350	$272.30
32 Watt Interior LED Fixture	0.0320	140 Watt Incandescent Fixture	0.1400	$272.30
32 Watt Interior LED Fixture	0.0320	145 Watt Incandescent Fixture	0.1450	$272.30
32 Watt Interior LED Fixture	0.0320	150 Watt Incandescent Fixture	0.1500	$272.30
32 Watt Interior LED Fixture	0.0320	155 Watt Incandescent Fixture	0.1550	$272.30
32 Watt Interior LED Fixture	0.0320	160 Watt Incandescent Fixture	0.1600	$272.30
32 Watt Interior LED Fixture	0.0320	165 Watt Incandescent Fixture	0.1650	$272.30
32 Watt Interior LED Fixture	0.0320	170 Watt Incandescent Fixture	0.1700	$272.30
32 Watt Interior LED Fixture	0.0320	175 Watt Incandescent Fixture	0.1750	$272.30
32 Watt Interior LED Fixture	0.0320	180 Watt Incandescent Fixture	0.1800	$272.30
32 Watt Interior LED Fixture	0.0320	185 Watt Incandescent Fixture	0.1850	$272.30
32 Watt Interior LED Fixture	0.0320	190 Watt Incandescent Fixture	0.1900	$272.30
33 Watt Interior LED Fixture	0.0330	100 Watt Incandescent Fixture	0.1000	$272.30
33 Watt Interior LED Fixture	0.0330	105 Watt Incandescent Fixture	0.1050	$272.30
33 Watt Interior LED Fixture	0.0330	110 Watt Incandescent Fixture	0.1100	$272.30
33 Watt Interior LED Fixture	0.0330	115 Watt Incandescent Fixture	0.1150	$272.30
33 Watt Interior LED Fixture	0.0330	120 Watt Incandescent Fixture	0.1200	$272.30
33 Watt Interior LED Fixture	0.0330	125 Watt Incandescent Fixture	0.1250	$272.30
33 Watt Interior LED Fixture	0.0330	130 Watt Incandescent Fixture	0.1300	$272.30
33 Watt Interior LED Fixture	0.0330	135 Watt Incandescent Fixture	0.1350	$272.30
33 Watt Interior LED Fixture	0.0330	140 Watt Incandescent Fixture	0.1400	$272.30
33 Watt Interior LED Fixture	0.0330	145 Watt Incandescent Fixture	0.1450	$272.30
33 Watt Interior LED Fixture	0.0330	150 Watt Incandescent Fixture	0.1500	$272.30
33 Watt Interior LED Fixture	0.0330	155 Watt Incandescent Fixture	0.1550	$272.30
33 Watt Interior LED Fixture	0.0330	160 Watt Incandescent Fixture	0.1600	$272.30
33 Watt Interior LED Fixture	0.0330	165 Watt Incandescent Fixture	0.1650	$272.30
33 Watt Interior LED Fixture	0.0330	170 Watt Incandescent Fixture	0.1700	$272.30
33 Watt Interior LED Fixture	0.0330	175 Watt Incandescent Fixture	0.1750	$272.30
33 Watt Interior LED Fixture	0.0330	180 Watt Incandescent Fixture	0.1800	$272.30
33 Watt Interior LED Fixture	0.0330	185 Watt Incandescent Fixture	0.1850	$272.30
33 Watt Interior LED Fixture	0.0330	190 Watt Incandescent Fixture	0.1900	$272.30
33 Watt Interior LED Fixture	0.0330	195 Watt Incandescent Fixture	0.1950	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
33 Watt Interior LED Fixture	0.0330	200 Watt Incandescent Fixture	0.2000	$272.30
34 Watt Interior LED Fixture	0.0340	100 Watt Incandescent Fixture	0.1000	$272.30
34 Watt Interior LED Fixture	0.0340	105 Watt Incandescent Fixture	0.1050	$272.30
34 Watt Interior LED Fixture	0.0340	110 Watt Incandescent Fixture	0.1100	$272.30
34 Watt Interior LED Fixture	0.0340	115 Watt Incandescent Fixture	0.1150	$272.30
34 Watt Interior LED Fixture	0.0340	120 Watt Incandescent Fixture	0.1200	$272.30
34 Watt Interior LED Fixture	0.0340	125 Watt Incandescent Fixture	0.1250	$272.30
34 Watt Interior LED Fixture	0.0340	130 Watt Incandescent Fixture	0.1300	$272.30
34 Watt Interior LED Fixture	0.0340	135 Watt Incandescent Fixture	0.1350	$272.30
34 Watt Interior LED Fixture	0.0340	140 Watt Incandescent Fixture	0.1400	$272.30
34 Watt Interior LED Fixture	0.0340	145 Watt Incandescent Fixture	0.1450	$272.30
34 Watt Interior LED Fixture	0.0340	150 Watt Incandescent Fixture	0.1500	$272.30
34 Watt Interior LED Fixture	0.0340	155 Watt Incandescent Fixture	0.1550	$272.30
34 Watt Interior LED Fixture	0.0340	160 Watt Incandescent Fixture	0.1600	$272.30
34 Watt Interior LED Fixture	0.0340	165 Watt Incandescent Fixture	0.1650	$272.30
34 Watt Interior LED Fixture	0.0340	170 Watt Incandescent Fixture	0.1700	$272.30
34 Watt Interior LED Fixture	0.0340	175 Watt Incandescent Fixture	0.1750	$272.30
34 Watt Interior LED Fixture	0.0340	180 Watt Incandescent Fixture	0.1800	$272.30
34 Watt Interior LED Fixture	0.0340	185 Watt Incandescent Fixture	0.1850	$272.30
34 Watt Interior LED Fixture	0.0340	190 Watt Incandescent Fixture	0.1900	$272.30
34 Watt Interior LED Fixture	0.0340	195 Watt Incandescent Fixture	0.1950	$272.30
34 Watt Interior LED Fixture	0.0340	200 Watt Incandescent Fixture	0.2000	$272.30
35 Watt Interior LED Fixture	0.0350	105 Watt Incandescent Fixture	0.1050	$272.30
35 Watt Interior LED Fixture	0.0350	110 Watt Incandescent Fixture	0.1100	$272.30
35 Watt Interior LED Fixture	0.0350	115 Watt Incandescent Fixture	0.1150	$272.30
35 Watt Interior LED Fixture	0.0350	120 Watt Incandescent Fixture	0.1200	$272.30
35 Watt Interior LED Fixture	0.0350	125 Watt Incandescent Fixture	0.1250	$272.30
35 Watt Interior LED Fixture	0.0350	130 Watt Incandescent Fixture	0.1300	$272.30
35 Watt Interior LED Fixture	0.0350	135 Watt Incandescent Fixture	0.1350	$272.30
35 Watt Interior LED Fixture	0.0350	140 Watt Incandescent Fixture	0.1400	$272.30
35 Watt Interior LED Fixture	0.0350	145 Watt Incandescent Fixture	0.1450	$272.30
35 Watt Interior LED Fixture	0.0350	150 Watt Incandescent Fixture	0.1500	$272.30
35 Watt Interior LED Fixture	0.0350	155 Watt Incandescent Fixture	0.1550	$272.30
35 Watt Interior LED Fixture	0.0350	160 Watt Incandescent Fixture	0.1600	$272.30
35 Watt Interior LED Fixture	0.0350	165 Watt Incandescent Fixture	0.1650	$272.30
35 Watt Interior LED Fixture	0.0350	170 Watt Incandescent Fixture	0.1700	$272.30
35 Watt Interior LED Fixture	0.0350	175 Watt Incandescent Fixture	0.1750	$272.30
35 Watt Interior LED Fixture	0.0350	180 Watt Incandescent Fixture	0.1800	$272.30
35 Watt Interior LED Fixture	0.0350	185 Watt Incandescent Fixture	0.1850	$272.30
35 Watt Interior LED Fixture	0.0350	190 Watt Incandescent Fixture	0.1900	$272.30
35 Watt Interior LED Fixture	0.0350	195 Watt Incandescent Fixture	0.1950	$272.30
35 Watt Interior LED Fixture	0.0350	200 Watt Incandescent Fixture	0.2000	$272.30
36 Watt Interior LED Fixture	0.0360	110 Watt Incandescent Fixture	0.1100	$272.30
36 Watt Interior LED Fixture	0.0360	115 Watt Incandescent Fixture	0.1150	$272.30
36 Watt Interior LED Fixture	0.0360	120 Watt Incandescent Fixture	0.1200	$272.30
36 Watt Interior LED Fixture	0.0360	125 Watt Incandescent Fixture	0.1250	$272.30
36 Watt Interior LED Fixture	0.0360	130 Watt Incandescent Fixture	0.1300	$272.30
36 Watt Interior LED Fixture	0.0360	135 Watt Incandescent Fixture	0.1350	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
36 Watt Interior LED Fixture	0.0360	140 Watt Incandescent Fixture	0.1400	$272.30
36 Watt Interior LED Fixture	0.0360	145 Watt Incandescent Fixture	0.1450	$272.30
36 Watt Interior LED Fixture	0.0360	150 Watt Incandescent Fixture	0.1500	$272.30
36 Watt Interior LED Fixture	0.0360	155 Watt Incandescent Fixture	0.1550	$272.30
36 Watt Interior LED Fixture	0.0360	160 Watt Incandescent Fixture	0.1600	$272.30
36 Watt Interior LED Fixture	0.0360	165 Watt Incandescent Fixture	0.1650	$272.30
36 Watt Interior LED Fixture	0.0360	170 Watt Incandescent Fixture	0.1700	$272.30
36 Watt Interior LED Fixture	0.0360	175 Watt Incandescent Fixture	0.1750	$272.30
36 Watt Interior LED Fixture	0.0360	180 Watt Incandescent Fixture	0.1800	$272.30
36 Watt Interior LED Fixture	0.0360	185 Watt Incandescent Fixture	0.1850	$272.30
36 Watt Interior LED Fixture	0.0360	190 Watt Incandescent Fixture	0.1900	$272.30
36 Watt Interior LED Fixture	0.0360	195 Watt Incandescent Fixture	0.1950	$272.30
36 Watt Interior LED Fixture	0.0360	200 Watt Incandescent Fixture	0.2000	$272.30
37 Watt Interior LED Fixture	0.0370	110 Watt Incandescent Fixture	0.1100	$272.30
37 Watt Interior LED Fixture	0.0370	115 Watt Incandescent Fixture	0.1150	$272.30
37 Watt Interior LED Fixture	0.0370	120 Watt Incandescent Fixture	0.1200	$272.30
37 Watt Interior LED Fixture	0.0370	125 Watt Incandescent Fixture	0.1250	$272.30
37 Watt Interior LED Fixture	0.0370	130 Watt Incandescent Fixture	0.1300	$272.30
37 Watt Interior LED Fixture	0.0370	135 Watt Incandescent Fixture	0.1350	$272.30
37 Watt Interior LED Fixture	0.0370	140 Watt Incandescent Fixture	0.1400	$272.30
37 Watt Interior LED Fixture	0.0370	145 Watt Incandescent Fixture	0.1450	$272.30
37 Watt Interior LED Fixture	0.0370	150 Watt Incandescent Fixture	0.1500	$272.30
37 Watt Interior LED Fixture	0.0370	155 Watt Incandescent Fixture	0.1550	$272.30
37 Watt Interior LED Fixture	0.0370	160 Watt Incandescent Fixture	0.1600	$272.30
37 Watt Interior LED Fixture	0.0370	165 Watt Incandescent Fixture	0.1650	$272.30
37 Watt Interior LED Fixture	0.0370	170 Watt Incandescent Fixture	0.1700	$272.30
37 Watt Interior LED Fixture	0.0370	175 Watt Incandescent Fixture	0.1750	$272.30
37 Watt Interior LED Fixture	0.0370	180 Watt Incandescent Fixture	0.1800	$272.30
37 Watt Interior LED Fixture	0.0370	185 Watt Incandescent Fixture	0.1850	$272.30
37 Watt Interior LED Fixture	0.0370	190 Watt Incandescent Fixture	0.1900	$272.30
37 Watt Interior LED Fixture	0.0370	195 Watt Incandescent Fixture	0.1950	$272.30
37 Watt Interior LED Fixture	0.0370	200 Watt Incandescent Fixture	0.2000	$272.30
38 Watt Interior LED Fixture	0.0380	115 Watt Incandescent Fixture	0.1150	$272.30
38 Watt Interior LED Fixture	0.0380	120 Watt Incandescent Fixture	0.1200	$272.30
38 Watt Interior LED Fixture	0.0380	125 Watt Incandescent Fixture	0.1250	$272.30
38 Watt Interior LED Fixture	0.0380	130 Watt Incandescent Fixture	0.1300	$272.30
38 Watt Interior LED Fixture	0.0380	135 Watt Incandescent Fixture	0.1350	$272.30
38 Watt Interior LED Fixture	0.0380	140 Watt Incandescent Fixture	0.1400	$272.30
38 Watt Interior LED Fixture	0.0380	145 Watt Incandescent Fixture	0.1450	$272.30
38 Watt Interior LED Fixture	0.0380	150 Watt Incandescent Fixture	0.1500	$272.30
38 Watt Interior LED Fixture	0.0380	155 Watt Incandescent Fixture	0.1550	$272.30
38 Watt Interior LED Fixture	0.0380	160 Watt Incandescent Fixture	0.1600	$272.30
38 Watt Interior LED Fixture	0.0380	165 Watt Incandescent Fixture	0.1650	$272.30
38 Watt Interior LED Fixture	0.0380	170 Watt Incandescent Fixture	0.1700	$272.30
38 Watt Interior LED Fixture	0.0380	175 Watt Incandescent Fixture	0.1750	$272.30
38 Watt Interior LED Fixture	0.0380	180 Watt Incandescent Fixture	0.1800	$272.30
38 Watt Interior LED Fixture	0.0380	185 Watt Incandescent Fixture	0.1850	$272.30
38 Watt Interior LED Fixture	0.0380	190 Watt Incandescent Fixture	0.1900	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
38 Watt Interior LED Fixture	0.0380	195 Watt Incandescent Fixture	0.1950	$272.30
38 Watt Interior LED Fixture	0.0380	200 Watt Incandescent Fixture	0.2000	$272.30
39 Watt Interior LED Fixture	0.0390	115 Watt Incandescent Fixture	0.1150	$272.30
39 Watt Interior LED Fixture	0.0390	120 Watt Incandescent Fixture	0.1200	$272.30
39 Watt Interior LED Fixture	0.0390	125 Watt Incandescent Fixture	0.1250	$272.30
39 Watt Interior LED Fixture	0.0390	130 Watt Incandescent Fixture	0.1300	$272.30
39 Watt Interior LED Fixture	0.0390	135 Watt Incandescent Fixture	0.1350	$272.30
39 Watt Interior LED Fixture	0.0390	140 Watt Incandescent Fixture	0.1400	$272.30
39 Watt Interior LED Fixture	0.0390	145 Watt Incandescent Fixture	0.1450	$272.30
39 Watt Interior LED Fixture	0.0390	150 Watt Incandescent Fixture	0.1500	$272.30
39 Watt Interior LED Fixture	0.0390	155 Watt Incandescent Fixture	0.1550	$272.30
39 Watt Interior LED Fixture	0.0390	160 Watt Incandescent Fixture	0.1600	$272.30
39 Watt Interior LED Fixture	0.0390	165 Watt Incandescent Fixture	0.1650	$272.30
39 Watt Interior LED Fixture	0.0390	170 Watt Incandescent Fixture	0.1700	$272.30
39 Watt Interior LED Fixture	0.0390	175 Watt Incandescent Fixture	0.1750	$272.30
39 Watt Interior LED Fixture	0.0390	180 Watt Incandescent Fixture	0.1800	$272.30
39 Watt Interior LED Fixture	0.0390	185 Watt Incandescent Fixture	0.1850	$272.30
39 Watt Interior LED Fixture	0.0390	190 Watt Incandescent Fixture	0.1900	$272.30
39 Watt Interior LED Fixture	0.0390	195 Watt Incandescent Fixture	0.1950	$272.30
39 Watt Interior LED Fixture	0.0390	200 Watt Incandescent Fixture	0.2000	$272.30
40 Watt Interior LED Fixture	0.0400	120 Watt Incandescent Fixture	0.1200	$272.30
40 Watt Interior LED Fixture	0.0400	125 Watt Incandescent Fixture	0.1250	$272.30
40 Watt Interior LED Fixture	0.0400	130 Watt Incandescent Fixture	0.1300	$272.30
40 Watt Interior LED Fixture	0.0400	135 Watt Incandescent Fixture	0.1350	$272.30
40 Watt Interior LED Fixture	0.0400	140 Watt Incandescent Fixture	0.1400	$272.30
40 Watt Interior LED Fixture	0.0400	145 Watt Incandescent Fixture	0.1450	$272.30
40 Watt Interior LED Fixture	0.0400	150 Watt Incandescent Fixture	0.1500	$272.30
40 Watt Interior LED Fixture	0.0400	155 Watt Incandescent Fixture	0.1550	$272.30
40 Watt Interior LED Fixture	0.0400	160 Watt Incandescent Fixture	0.1600	$272.30
40 Watt Interior LED Fixture	0.0400	165 Watt Incandescent Fixture	0.1650	$272.30
40 Watt Interior LED Fixture	0.0400	170 Watt Incandescent Fixture	0.1700	$272.30
40 Watt Interior LED Fixture	0.0400	175 Watt Incandescent Fixture	0.1750	$272.30
40 Watt Interior LED Fixture	0.0400	180 Watt Incandescent Fixture	0.1800	$272.30
40 Watt Interior LED Fixture	0.0400	185 Watt Incandescent Fixture	0.1850	$272.30
40 Watt Interior LED Fixture	0.0400	190 Watt Incandescent Fixture	0.1900	$272.30
40 Watt Interior LED Fixture	0.0400	195 Watt Incandescent Fixture	0.1950	$272.30
40 Watt Interior LED Fixture	0.0400	200 Watt Incandescent Fixture	0.2000	$272.30
41 Watt Interior LED Fixture	0.0410	125 Watt Incandescent Fixture	0.1250	$272.30
41 Watt Interior LED Fixture	0.0410	130 Watt Incandescent Fixture	0.1300	$272.30
41 Watt Interior LED Fixture	0.0410	135 Watt Incandescent Fixture	0.1350	$272.30
41 Watt Interior LED Fixture	0.0410	140 Watt Incandescent Fixture	0.1400	$272.30
41 Watt Interior LED Fixture	0.0410	145 Watt Incandescent Fixture	0.1450	$272.30
41 Watt Interior LED Fixture	0.0410	150 Watt Incandescent Fixture	0.1500	$272.30
41 Watt Interior LED Fixture	0.0410	155 Watt Incandescent Fixture	0.1550	$272.30
41 Watt Interior LED Fixture	0.0410	160 Watt Incandescent Fixture	0.1600	$272.30
41 Watt Interior LED Fixture	0.0410	165 Watt Incandescent Fixture	0.1650	$272.30
41 Watt Interior LED Fixture	0.0410	170 Watt Incandescent Fixture	0.1700	$272.30
41 Watt Interior LED Fixture	0.0410	175 Watt Incandescent Fixture	0.1750	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
41 Watt Interior LED Fixture	0.0410	180 Watt Incandescent Fixture	0.1800	$272.30
41 Watt Interior LED Fixture	0.0410	185 Watt Incandescent Fixture	0.1850	$272.30
41 Watt Interior LED Fixture	0.0410	190 Watt Incandescent Fixture	0.1900	$272.30
41 Watt Interior LED Fixture	0.0410	195 Watt Incandescent Fixture	0.1950	$272.30
41 Watt Interior LED Fixture	0.0410	200 Watt Incandescent Fixture	0.2000	$272.30
42 Watt Interior LED Fixture	0.0420	125 Watt Incandescent Fixture	0.1250	$272.30
42 Watt Interior LED Fixture	0.0420	130 Watt Incandescent Fixture	0.1300	$272.30
42 Watt Interior LED Fixture	0.0420	135 Watt Incandescent Fixture	0.1350	$272.30
42 Watt Interior LED Fixture	0.0420	140 Watt Incandescent Fixture	0.1400	$272.30
42 Watt Interior LED Fixture	0.0420	145 Watt Incandescent Fixture	0.1450	$272.30
42 Watt Interior LED Fixture	0.0420	150 Watt Incandescent Fixture	0.1500	$272.30
42 Watt Interior LED Fixture	0.0420	155 Watt Incandescent Fixture	0.1550	$272.30
42 Watt Interior LED Fixture	0.0420	160 Watt Incandescent Fixture	0.1600	$272.30
42 Watt Interior LED Fixture	0.0420	165 Watt Incandescent Fixture	0.1650	$272.30
42 Watt Interior LED Fixture	0.0420	170 Watt Incandescent Fixture	0.1700	$272.30
42 Watt Interior LED Fixture	0.0420	175 Watt Incandescent Fixture	0.1750	$272.30
42 Watt Interior LED Fixture	0.0420	180 Watt Incandescent Fixture	0.1800	$272.30
42 Watt Interior LED Fixture	0.0420	185 Watt Incandescent Fixture	0.1850	$272.30
42 Watt Interior LED Fixture	0.0420	190 Watt Incandescent Fixture	0.1900	$272.30
42 Watt Interior LED Fixture	0.0420	195 Watt Incandescent Fixture	0.1950	$272.30
42 Watt Interior LED Fixture	0.0420	200 Watt Incandescent Fixture	0.2000	$272.30
42 Watt Interior LED Fixture	0.0420	250 Watt Incandescent Fixture	0.2500	$272.30
43 Watt Interior LED Fixture	0.0430	130 Watt Incandescent Fixture	0.1300	$272.30
43 Watt Interior LED Fixture	0.0430	135 Watt Incandescent Fixture	0.1350	$272.30
43 Watt Interior LED Fixture	0.0430	140 Watt Incandescent Fixture	0.1400	$272.30
43 Watt Interior LED Fixture	0.0430	145 Watt Incandescent Fixture	0.1450	$272.30
43 Watt Interior LED Fixture	0.0430	150 Watt Incandescent Fixture	0.1500	$272.30
43 Watt Interior LED Fixture	0.0430	155 Watt Incandescent Fixture	0.1550	$272.30
43 Watt Interior LED Fixture	0.0430	160 Watt Incandescent Fixture	0.1600	$272.30
43 Watt Interior LED Fixture	0.0430	165 Watt Incandescent Fixture	0.1650	$272.30
43 Watt Interior LED Fixture	0.0430	170 Watt Incandescent Fixture	0.1700	$272.30
43 Watt Interior LED Fixture	0.0430	175 Watt Incandescent Fixture	0.1750	$272.30
43 Watt Interior LED Fixture	0.0430	180 Watt Incandescent Fixture	0.1800	$272.30
43 Watt Interior LED Fixture	0.0430	185 Watt Incandescent Fixture	0.1850	$272.30
43 Watt Interior LED Fixture	0.0430	190 Watt Incandescent Fixture	0.1900	$272.30
43 Watt Interior LED Fixture	0.0430	195 Watt Incandescent Fixture	0.1950	$272.30
43 Watt Interior LED Fixture	0.0430	200 Watt Incandescent Fixture	0.2000	$272.30
43 Watt Interior LED Fixture	0.0430	250 Watt Incandescent Fixture	0.2500	$272.30
44 Watt Interior LED Fixture	0.0440	130 Watt Incandescent Fixture	0.1300	$272.30
44 Watt Interior LED Fixture	0.0440	135 Watt Incandescent Fixture	0.1350	$272.30
44 Watt Interior LED Fixture	0.0440	140 Watt Incandescent Fixture	0.1400	$272.30
44 Watt Interior LED Fixture	0.0440	145 Watt Incandescent Fixture	0.1450	$272.30
44 Watt Interior LED Fixture	0.0440	150 Watt Incandescent Fixture	0.1500	$272.30
44 Watt Interior LED Fixture	0.0440	155 Watt Incandescent Fixture	0.1550	$272.30
44 Watt Interior LED Fixture	0.0440	160 Watt Incandescent Fixture	0.1600	$272.30
44 Watt Interior LED Fixture	0.0440	165 Watt Incandescent Fixture	0.1650	$272.30
44 Watt Interior LED Fixture	0.0440	170 Watt Incandescent Fixture	0.1700	$272.30
44 Watt Interior LED Fixture	0.0440	175 Watt Incandescent Fixture	0.1750	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
44 Watt Interior LED Fixture	0.0440	180 Watt Incandescent Fixture	0.1800	$272.30
44 Watt Interior LED Fixture	0.0440	185 Watt Incandescent Fixture	0.1850	$272.30
44 Watt Interior LED Fixture	0.0440	190 Watt Incandescent Fixture	0.1900	$272.30
44 Watt Interior LED Fixture	0.0440	195 Watt Incandescent Fixture	0.1950	$272.30
44 Watt Interior LED Fixture	0.0440	200 Watt Incandescent Fixture	0.2000	$272.30
44 Watt Interior LED Fixture	0.0440	250 Watt Incandescent Fixture	0.2500	$272.30
45 Watt Interior LED Fixture	0.0450	135 Watt Incandescent Fixture	0.1350	$272.30
45 Watt Interior LED Fixture	0.0450	140 Watt Incandescent Fixture	0.1400	$272.30
45 Watt Interior LED Fixture	0.0450	145 Watt Incandescent Fixture	0.1450	$272.30
45 Watt Interior LED Fixture	0.0450	150 Watt Incandescent Fixture	0.1500	$272.30
45 Watt Interior LED Fixture	0.0450	155 Watt Incandescent Fixture	0.1550	$272.30
45 Watt Interior LED Fixture	0.0450	160 Watt Incandescent Fixture	0.1600	$272.30
45 Watt Interior LED Fixture	0.0450	165 Watt Incandescent Fixture	0.1650	$272.30
45 Watt Interior LED Fixture	0.0450	170 Watt Incandescent Fixture	0.1700	$272.30
45 Watt Interior LED Fixture	0.0450	175 Watt Incandescent Fixture	0.1750	$272.30
45 Watt Interior LED Fixture	0.0450	180 Watt Incandescent Fixture	0.1800	$272.30
45 Watt Interior LED Fixture	0.0450	185 Watt Incandescent Fixture	0.1850	$272.30
45 Watt Interior LED Fixture	0.0450	190 Watt Incandescent Fixture	0.1900	$272.30
45 Watt Interior LED Fixture	0.0450	195 Watt Incandescent Fixture	0.1950	$272.30
45 Watt Interior LED Fixture	0.0450	200 Watt Incandescent Fixture	0.2000	$272.30
45 Watt Interior LED Fixture	0.0450	250 Watt Incandescent Fixture	0.2500	$272.30
46 Watt Interior LED Fixture	0.0460	140 Watt Incandescent Fixture	0.1400	$272.30
46 Watt Interior LED Fixture	0.0460	145 Watt Incandescent Fixture	0.1450	$272.30
46 Watt Interior LED Fixture	0.0460	150 Watt Incandescent Fixture	0.1500	$272.30
46 Watt Interior LED Fixture	0.0460	155 Watt Incandescent Fixture	0.1550	$272.30
46 Watt Interior LED Fixture	0.0460	160 Watt Incandescent Fixture	0.1600	$272.30
46 Watt Interior LED Fixture	0.0460	165 Watt Incandescent Fixture	0.1650	$272.30
46 Watt Interior LED Fixture	0.0460	170 Watt Incandescent Fixture	0.1700	$272.30
46 Watt Interior LED Fixture	0.0460	175 Watt Incandescent Fixture	0.1750	$272.30
46 Watt Interior LED Fixture	0.0460	180 Watt Incandescent Fixture	0.1800	$272.30
46 Watt Interior LED Fixture	0.0460	185 Watt Incandescent Fixture	0.1850	$272.30
46 Watt Interior LED Fixture	0.0460	190 Watt Incandescent Fixture	0.1900	$272.30
46 Watt Interior LED Fixture	0.0460	195 Watt Incandescent Fixture	0.1950	$272.30
46 Watt Interior LED Fixture	0.0460	200 Watt Incandescent Fixture	0.2000	$272.30
46 Watt Interior LED Fixture	0.0460	250 Watt Incandescent Fixture	0.2500	$272.30
47 Watt Interior LED Fixture	0.0470	140 Watt Incandescent Fixture	0.1400	$272.30
47 Watt Interior LED Fixture	0.0470	145 Watt Incandescent Fixture	0.1450	$272.30
47 Watt Interior LED Fixture	0.0470	150 Watt Incandescent Fixture	0.1500	$272.30
47 Watt Interior LED Fixture	0.0470	155 Watt Incandescent Fixture	0.1550	$272.30
47 Watt Interior LED Fixture	0.0470	160 Watt Incandescent Fixture	0.1600	$272.30
47 Watt Interior LED Fixture	0.0470	165 Watt Incandescent Fixture	0.1650	$272.30
47 Watt Interior LED Fixture	0.0470	170 Watt Incandescent Fixture	0.1700	$272.30
47 Watt Interior LED Fixture	0.0470	175 Watt Incandescent Fixture	0.1750	$272.30
47 Watt Interior LED Fixture	0.0470	180 Watt Incandescent Fixture	0.1800	$272.30
47 Watt Interior LED Fixture	0.0470	185 Watt Incandescent Fixture	0.1850	$272.30
47 Watt Interior LED Fixture	0.0470	190 Watt Incandescent Fixture	0.1900	$272.30
47 Watt Interior LED Fixture	0.0470	195 Watt Incandescent Fixture	0.1950	$272.30
47 Watt Interior LED Fixture	0.0470	200 Watt Incandescent Fixture	0.2000	$272.30

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
47 Watt Interior LED Fixture	0.0470	250 Watt Incandescent Fixture	0.2500	$272.30
48 Watt Interior LED Fixture	0.0480	145 Watt Incandescent Fixture	0.1450	$272.30
48 Watt Interior LED Fixture	0.0480	150 Watt Incandescent Fixture	0.1500	$272.30
48 Watt Interior LED Fixture	0.0480	155 Watt Incandescent Fixture	0.1550	$272.30
48 Watt Interior LED Fixture	0.0480	160 Watt Incandescent Fixture	0.1600	$272.30
48 Watt Interior LED Fixture	0.0480	165 Watt Incandescent Fixture	0.1650	$272.30
48 Watt Interior LED Fixture	0.0480	170 Watt Incandescent Fixture	0.1700	$272.30
48 Watt Interior LED Fixture	0.0480	175 Watt Incandescent Fixture	0.1750	$272.30
48 Watt Interior LED Fixture	0.0480	180 Watt Incandescent Fixture	0.1800	$272.30
48 Watt Interior LED Fixture	0.0480	185 Watt Incandescent Fixture	0.1850	$272.30
48 Watt Interior LED Fixture	0.0480	190 Watt Incandescent Fixture	0.1900	$272.30
48 Watt Interior LED Fixture	0.0480	195 Watt Incandescent Fixture	0.1950	$272.30
48 Watt Interior LED Fixture	0.0480	200 Watt Incandescent Fixture	0.2000	$272.30
48 Watt Interior LED Fixture	0.0480	250 Watt Incandescent Fixture	0.2500	$272.30
49 Watt Interior LED Fixture	0.0490	145 Watt Incandescent Fixture	0.1450	$272.30
49 Watt Interior LED Fixture	0.0490	150 Watt Incandescent Fixture	0.1500	$272.30
49 Watt Interior LED Fixture	0.0490	155 Watt Incandescent Fixture	0.1550	$272.30
49 Watt Interior LED Fixture	0.0490	160 Watt Incandescent Fixture	0.1600	$272.30
49 Watt Interior LED Fixture	0.0490	165 Watt Incandescent Fixture	0.1650	$272.30
49 Watt Interior LED Fixture	0.0490	170 Watt Incandescent Fixture	0.1700	$272.30
49 Watt Interior LED Fixture	0.0490	175 Watt Incandescent Fixture	0.1750	$272.30
49 Watt Interior LED Fixture	0.0490	180 Watt Incandescent Fixture	0.1800	$272.30
49 Watt Interior LED Fixture	0.0490	185 Watt Incandescent Fixture	0.1850	$272.30
49 Watt Interior LED Fixture	0.0490	190 Watt Incandescent Fixture	0.1900	$272.30
49 Watt Interior LED Fixture	0.0490	195 Watt Incandescent Fixture	0.1950	$272.30
49 Watt Interior LED Fixture	0.0490	200 Watt Incandescent Fixture	0.2000	$272.30
49 Watt Interior LED Fixture	0.0490	250 Watt Incandescent Fixture	0.2500	$272.30
50 Watt Interior LED Fixture	0.0500	150 Watt Incandescent Fixture	0.1500	$272.30
50 Watt Interior LED Fixture	0.0500	155 Watt Incandescent Fixture	0.1550	$272.30
50 Watt Interior LED Fixture	0.0500	160 Watt Incandescent Fixture	0.1600	$272.30
50 Watt Interior LED Fixture	0.0500	165 Watt Incandescent Fixture	0.1650	$272.30
50 Watt Interior LED Fixture	0.0500	170 Watt Incandescent Fixture	0.1700	$272.30
50 Watt Interior LED Fixture	0.0500	175 Watt Incandescent Fixture	0.1750	$272.30
50 Watt Interior LED Fixture	0.0500	180 Watt Incandescent Fixture	0.1800	$272.30
50 Watt Interior LED Fixture	0.0500	185 Watt Incandescent Fixture	0.1850	$272.30
50 Watt Interior LED Fixture	0.0500	190 Watt Incandescent Fixture	0.1900	$272.30
50 Watt Interior LED Fixture	0.0500	195 Watt Incandescent Fixture	0.1950	$272.30
50 Watt Interior LED Fixture	0.0500	200 Watt Incandescent Fixture	0.2000	$272.30
50 Watt Interior LED Fixture	0.0500	250 Watt Incandescent Fixture	0.2500	$272.30
50 Watt Interior LED Fixture	0.0500	300 Watt Incandescent Fixture	0.3000	$272.30
25 Watt Exterior Canopy or Soffit LED Fixture	0.0250	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.0250	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.0250	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.0250	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.0250	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.0260	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.0260	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
26 Watt Exterior Canopy or Soffit LED Fixture	0.0260	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.0260	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.0260	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.0270	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.0270	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.0270	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.0270	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.0270	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.0280	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.0280	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.0280	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.0280	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.0280	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.0290	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.0290	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.0290	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.0290	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.0290	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330	100 Watt Exterior Canopy or Soffit MH Fixture	0.1250	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330	100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.0340	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.0340	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
34 Watt Exterior Canopy or Soffit LED Fixture	0.0340	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.0340	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.0340	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.0340	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.0350	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.0350	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.0350	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.0350	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.0350	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.0350	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.0360	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.0360	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.0360	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.0360	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.0360	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.0360	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.0370	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.0370	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.0370	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.0370	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.0370	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.0370	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.0380	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.0380	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.0380	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.0380	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.0380	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.0380	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.0390	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.0390	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.0390	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.0390	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.0390	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.0390	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.0400	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.0400	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.0400	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.0400	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.0400	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.0400	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.0410	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.0410	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.0410	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.0410	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.0410	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.0410	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.0440	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.0440	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.0440	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.0440	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.0440	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.0440	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.0500	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.0500	150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.0500	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.0500	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.0500	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.0500	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.0510	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$627.80
51 Watt Exterior Canopy or Soffit LED Fixture	0.0510	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$627.80
51 Watt Exterior Canopy or Soffit LED Fixture	0.0510	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
51 Watt Exterior Canopy or Soffit LED Fixture	0.0510	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
51 Watt Exterior Canopy or Soffit LED Fixture	0.0510	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
52 Watt Exterior Canopy or Soffit LED Fixture	0.0520	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$627.80
52 Watt Exterior Canopy or Soffit LED Fixture	0.0520	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$627.80
52 Watt Exterior Canopy or Soffit LED Fixture	0.0520	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
52 Watt Exterior Canopy or Soffit LED Fixture	0.0520	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
52 Watt Exterior Canopy or Soffit LED Fixture	0.0520	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
53 Watt Exterior Canopy or Soffit LED Fixture	0.0530	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$627.80
53 Watt Exterior Canopy or Soffit LED Fixture	0.0530	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$627.80
53 Watt Exterior Canopy or Soffit LED Fixture	0.0530	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
53 Watt Exterior Canopy or Soffit LED Fixture	0.0530	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
53 Watt Exterior Canopy or Soffit LED Fixture	0.0530	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
54 Watt Exterior Canopy or Soffit LED Fixture	0.0540	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$627.80
54 Watt Exterior Canopy or Soffit LED Fixture	0.0540	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$627.80
54 Watt Exterior Canopy or Soffit LED Fixture	0.0540	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
54 Watt Exterior Canopy or Soffit LED Fixture	0.0540	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
54 Watt Exterior Canopy or Soffit LED Fixture	0.0540	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
54 Watt Exterior Canopy or Soffit LED Fixture	0.0540	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
55 Watt Exterior Canopy or Soffit LED Fixture	0.0550	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$627.80
55 Watt Exterior Canopy or Soffit LED Fixture	0.0550	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$627.80
55 Watt Exterior Canopy or Soffit LED Fixture	0.0550	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
55 Watt Exterior Canopy or Soffit LED Fixture	0.0550	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
55 Watt Exterior Canopy or Soffit LED Fixture	0.0550	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
55 Watt Exterior Canopy or Soffit LED Fixture	0.0550	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
56 Watt Exterior Canopy or Soffit LED Fixture	0.0560	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$627.80
56 Watt Exterior Canopy or Soffit LED Fixture	0.0560	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$627.80
56 Watt Exterior Canopy or Soffit LED Fixture	0.0560	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
56 Watt Exterior Canopy or Soffit LED Fixture	0.0560	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
56 Watt Exterior Canopy or Soffit LED Fixture	0.0560	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
56 Watt Exterior Canopy or Soffit LED Fixture	0.0560	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
57 Watt Exterior Canopy or Soffit LED Fixture	0.0570	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$627.80
57 Watt Exterior Canopy or Soffit LED Fixture	0.0570	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$627.80
57 Watt Exterior Canopy or Soffit LED Fixture	0.0570	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
57 Watt Exterior Canopy or Soffit LED Fixture	0.0570	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
57 Watt Exterior Canopy or Soffit LED Fixture	0.0570	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
57 Watt Exterior Canopy or Soffit LED Fixture	0.0570	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
58 Watt Exterior Canopy or Soffit LED Fixture	0.0580	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$627.80
58 Watt Exterior Canopy or Soffit LED Fixture	0.0580	175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080	$627.80
58 Watt Exterior Canopy or Soffit LED Fixture	0.0580	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
58 Watt Exterior Canopy or Soffit LED Fixture	0.0580	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
58 Watt Exterior Canopy or Soffit LED Fixture	0.0580	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
58 Watt Exterior Canopy or Soffit LED Fixture	0.0580	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
59 Watt Exterior Canopy or Soffit LED Fixture	0.0590	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
59 Watt Exterior Canopy or Soffit LED Fixture	0.0590	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
59 Watt Exterior Canopy or Soffit LED Fixture	0.0590	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
59 Watt Exterior Canopy or Soffit LED Fixture	0.0590	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
59 Watt Exterior Canopy or Soffit LED Fixture	0.0590	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
60 Watt Exterior Canopy or Soffit LED Fixture	0.0600	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
60 Watt Exterior Canopy or Soffit LED Fixture	0.0600	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
60 Watt Exterior Canopy or Soffit LED Fixture	0.0600	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
60 Watt Exterior Canopy or Soffit LED Fixture	0.0600	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
60 Watt Exterior Canopy or Soffit LED Fixture	0.0600	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
61 Watt Exterior Canopy or Soffit LED Fixture	0.0610	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
61 Watt Exterior Canopy or Soffit LED Fixture	0.0610	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
61 Watt Exterior Canopy or Soffit LED Fixture	0.0610	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
61 Watt Exterior Canopy or Soffit LED Fixture	0.0610	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
61 Watt Exterior Canopy or Soffit LED Fixture	0.0610	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
62 Watt Exterior Canopy or Soffit LED Fixture	0.0620	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
62 Watt Exterior Canopy or Soffit LED Fixture	0.0620	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
62 Watt Exterior Canopy or Soffit LED Fixture	0.0620	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
62 Watt Exterior Canopy or Soffit LED Fixture	0.0620	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
62 Watt Exterior Canopy or Soffit LED Fixture	0.0620	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
63 Watt Exterior Canopy or Soffit LED Fixture	0.0630	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
63 Watt Exterior Canopy or Soffit LED Fixture	0.0630	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
63 Watt Exterior Canopy or Soffit LED Fixture	0.0630	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
63 Watt Exterior Canopy or Soffit LED Fixture	0.0630	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
63 Watt Exterior Canopy or Soffit LED Fixture	0.0630	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
64 Watt Exterior Canopy or Soffit LED Fixture	0.0640	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
64 Watt Exterior Canopy or Soffit LED Fixture	0.0640	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
64 Watt Exterior Canopy or Soffit LED Fixture	0.0640	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
64 Watt Exterior Canopy or Soffit LED Fixture	0.0640	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
64 Watt Exterior Canopy or Soffit LED Fixture	0.0640	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
65 Watt Exterior Canopy or Soffit LED Fixture	0.0650	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
65 Watt Exterior Canopy or Soffit LED Fixture	0.0650	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
65 Watt Exterior Canopy or Soffit LED Fixture	0.0650	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
65 Watt Exterior Canopy or Soffit LED Fixture	0.0650	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
65 Watt Exterior Canopy or Soffit LED Fixture	0.0650	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
66 Watt Exterior Canopy or Soffit LED Fixture	0.0660	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$627.80
66 Watt Exterior Canopy or Soffit LED Fixture	0.0660	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
66 Watt Exterior Canopy or Soffit LED Fixture	0.0660	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
66 Watt Exterior Canopy or Soffit LED Fixture	0.0660	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
66 Watt Exterior Canopy or Soffit LED Fixture	0.0660	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
67 Watt Exterior Canopy or Soffit LED Fixture	0.0670	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.0670	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.0670	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.0670	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.0670	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.0670	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.0680	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.0680	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.0680	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.0680	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.0680	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.0680	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.0690	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.0690	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.0690	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.0690	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.0690	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.0700	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.0700	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.0700	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.0700	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.0700	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.0700	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.0710	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.0710	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.0710	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.0710	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.0710	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.0710	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.0720	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.0720	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.0720	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.0720	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.0720	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.0720	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.0730	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.0730	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.0730	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.0730	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.0730	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.0740	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.0740	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.0740	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.0740	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.0740	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.0740	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830	250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.0840	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.0840	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.0840	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.0840	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.0840	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.0850	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.0850	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.0850	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.0850	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.0850	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.0860	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.0860	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.0860	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.0860	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.0860	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.0870	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.0870	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.0870	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.0870	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.0870	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.0880	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.0880	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.0880	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.0880	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.0880	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.0890	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.0890	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.0890	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.0890	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.0890	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.0900	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.0900	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.0900	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.0900	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.0900	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
91 Watt Exterior Canopy or Soffit LED Fixture	0.0910	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.0910	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.0910	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.0910	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.0910	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.0920	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.0920	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.0920	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.0920	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.0920	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.0930	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.0930	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.0930	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.0930	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.0930	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.0940	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.0940	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.0940	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.0940	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.0940	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.0950	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.0950	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.0950	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.0950	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.0950	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.0960	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.0960	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.0960	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.0960	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.0960	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.0970	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.0970	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.0970	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.0970	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.0970	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.0980	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.0980	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.0980	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.0980	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.0980	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.0990	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.0990	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.0990	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.0990	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.0990	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.1000	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.1000	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.1000	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
100 Watt Exterior Canopy or Soffit LED Fixture	0.1000	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.1000	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$627.80
101 Watt Exterior Canopy or Soffit LED Fixture	0.1010	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$707.00
101 Watt Exterior Canopy or Soffit LED Fixture	0.1010	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
101 Watt Exterior Canopy or Soffit LED Fixture	0.1010	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
101 Watt Exterior Canopy or Soffit LED Fixture	0.1010	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
101 Watt Exterior Canopy or Soffit LED Fixture	0.1010	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
102 Watt Exterior Canopy or Soffit LED Fixture	0.1020	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$707.00
102 Watt Exterior Canopy or Soffit LED Fixture	0.1020	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
102 Watt Exterior Canopy or Soffit LED Fixture	0.1020	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
102 Watt Exterior Canopy or Soffit LED Fixture	0.1020	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
102 Watt Exterior Canopy or Soffit LED Fixture	0.1020	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
103 Watt Exterior Canopy or Soffit LED Fixture	0.1030	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$707.00
103 Watt Exterior Canopy or Soffit LED Fixture	0.1030	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
103 Watt Exterior Canopy or Soffit LED Fixture	0.1030	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
103 Watt Exterior Canopy or Soffit LED Fixture	0.1030	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
103 Watt Exterior Canopy or Soffit LED Fixture	0.1030	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
104 Watt Exterior Canopy or Soffit LED Fixture	0.1040	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$707.00
104 Watt Exterior Canopy or Soffit LED Fixture	0.1040	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
104 Watt Exterior Canopy or Soffit LED Fixture	0.1040	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
104 Watt Exterior Canopy or Soffit LED Fixture	0.1040	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
104 Watt Exterior Canopy or Soffit LED Fixture	0.1040	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
105 Watt Exterior Canopy or Soffit LED Fixture	0.1050	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$707.00
105 Watt Exterior Canopy or Soffit LED Fixture	0.1050	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
105 Watt Exterior Canopy or Soffit LED Fixture	0.1050	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
105 Watt Exterior Canopy or Soffit LED Fixture	0.1050	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
105 Watt Exterior Canopy or Soffit LED Fixture	0.1050	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
106 Watt Exterior Canopy or Soffit LED Fixture	0.1060	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$707.00
106 Watt Exterior Canopy or Soffit LED Fixture	0.1060	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
106 Watt Exterior Canopy or Soffit LED Fixture	0.1060	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
106 Watt Exterior Canopy or Soffit LED Fixture	0.1060	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
106 Watt Exterior Canopy or Soffit LED Fixture	0.1060	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
107 Watt Exterior Canopy or Soffit LED Fixture	0.1070	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
107 Watt Exterior Canopy or Soffit LED Fixture	0.1070	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
107 Watt Exterior Canopy or Soffit LED Fixture	0.1070	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
107 Watt Exterior Canopy or Soffit LED Fixture	0.1070	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
108 Watt Exterior Canopy or Soffit LED Fixture	0.1080	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
108 Watt Exterior Canopy or Soffit LED Fixture	0.1080	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
108 Watt Exterior Canopy or Soffit LED Fixture	0.1080	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
108 Watt Exterior Canopy or Soffit LED Fixture	0.1080	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
109 Watt Exterior Canopy or Soffit LED Fixture	0.1090	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
109 Watt Exterior Canopy or Soffit LED Fixture	0.1090	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
109 Watt Exterior Canopy or Soffit LED Fixture	0.1090	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
109 Watt Exterior Canopy or Soffit LED Fixture	0.1090	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
110 Watt Exterior Canopy or Soffit LED Fixture	0.1100	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
110 Watt Exterior Canopy or Soffit LED Fixture	0.1100	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
110 Watt Exterior Canopy or Soffit LED Fixture	0.1100	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
110 Watt Exterior Canopy or Soffit LED Fixture	0.1100	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
111 Watt Exterior Canopy or Soffit LED Fixture	0.1110	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
111 Watt Exterior Canopy or Soffit LED Fixture	0.1110	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
111 Watt Exterior Canopy or Soffit LED Fixture	0.1110	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
111 Watt Exterior Canopy or Soffit LED Fixture	0.1110	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
112 Watt Exterior Canopy or Soffit LED Fixture	0.1120	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
112 Watt Exterior Canopy or Soffit LED Fixture	0.1120	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
112 Watt Exterior Canopy or Soffit LED Fixture	0.1120	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
112 Watt Exterior Canopy or Soffit LED Fixture	0.1120	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
113 Watt Exterior Canopy or Soffit LED Fixture	0.1130	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
113 Watt Exterior Canopy or Soffit LED Fixture	0.1130	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
113 Watt Exterior Canopy or Soffit LED Fixture	0.1130	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
113 Watt Exterior Canopy or Soffit LED Fixture	0.1130	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
114 Watt Exterior Canopy or Soffit LED Fixture	0.1140	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
114 Watt Exterior Canopy or Soffit LED Fixture	0.1140	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
114 Watt Exterior Canopy or Soffit LED Fixture	0.1140	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
114 Watt Exterior Canopy or Soffit LED Fixture	0.1140	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
115 Watt Exterior Canopy or Soffit LED Fixture	0.1150	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
115 Watt Exterior Canopy or Soffit LED Fixture	0.1150	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
115 Watt Exterior Canopy or Soffit LED Fixture	0.1150	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
115 Watt Exterior Canopy or Soffit LED Fixture	0.1150	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
116 Watt Exterior Canopy or Soffit LED Fixture	0.1160	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$707.00
116 Watt Exterior Canopy or Soffit LED Fixture	0.1160	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
116 Watt Exterior Canopy or Soffit LED Fixture	0.1160	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
116 Watt Exterior Canopy or Soffit LED Fixture	0.1160	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
117 Watt Exterior Canopy or Soffit LED Fixture	0.1170	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
117 Watt Exterior Canopy or Soffit LED Fixture	0.1170	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
117 Watt Exterior Canopy or Soffit LED Fixture	0.1170	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
118 Watt Exterior Canopy or Soffit LED Fixture	0.1180	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
118 Watt Exterior Canopy or Soffit LED Fixture	0.1180	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
118 Watt Exterior Canopy or Soffit LED Fixture	0.1180	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
119 Watt Exterior Canopy or Soffit LED Fixture	0.1190	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
119 Watt Exterior Canopy or Soffit LED Fixture	0.1190	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
119 Watt Exterior Canopy or Soffit LED Fixture	0.1190	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
120 Watt Exterior Canopy or Soffit LED Fixture	0.1200	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
120 Watt Exterior Canopy or Soffit LED Fixture	0.1200	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
120 Watt Exterior Canopy or Soffit LED Fixture	0.1200	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
121 Watt Exterior Canopy or Soffit LED Fixture	0.1210	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
121 Watt Exterior Canopy or Soffit LED Fixture	0.1210	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
121 Watt Exterior Canopy or Soffit LED Fixture	0.1210	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
122 Watt Exterior Canopy or Soffit LED Fixture	0.1220	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
122 Watt Exterior Canopy or Soffit LED Fixture	0.1220	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
122 Watt Exterior Canopy or Soffit LED Fixture	0.1220	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
123 Watt Exterior Canopy or Soffit LED Fixture	0.1230	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
123 Watt Exterior Canopy or Soffit LED Fixture	0.1230	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
123 Watt Exterior Canopy or Soffit LED Fixture	0.1230	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
124 Watt Exterior Canopy or Soffit LED Fixture	0.1240	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
124 Watt Exterior Canopy or Soffit LED Fixture	0.1240	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
124 Watt Exterior Canopy or Soffit LED Fixture	0.1240	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
125 Watt Exterior Canopy or Soffit LED Fixture	0.1250	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
125 Watt Exterior Canopy or Soffit LED Fixture	0.1250	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
125 Watt Exterior Canopy or Soffit LED Fixture	0.1250	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
126 Watt Exterior Canopy or Soffit LED Fixture	0.1260	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
126 Watt Exterior Canopy or Soffit LED Fixture	0.1260	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
126 Watt Exterior Canopy or Soffit LED Fixture	0.1260	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
127 Watt Exterior Canopy or Soffit LED Fixture	0.1270	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
127 Watt Exterior Canopy or Soffit LED Fixture	0.1270	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
127 Watt Exterior Canopy or Soffit LED Fixture	0.1270	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
128 Watt Exterior Canopy or Soffit LED Fixture	0.1280	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
128 Watt Exterior Canopy or Soffit LED Fixture	0.1280	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
128 Watt Exterior Canopy or Soffit LED Fixture	0.1280	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
129 Watt Exterior Canopy or Soffit LED Fixture	0.1290	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
129 Watt Exterior Canopy or Soffit LED Fixture	0.1290	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
129 Watt Exterior Canopy or Soffit LED Fixture	0.1290	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
130 Watt Exterior Canopy or Soffit LED Fixture	0.1300	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
130 Watt Exterior Canopy or Soffit LED Fixture	0.1300	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
130 Watt Exterior Canopy or Soffit LED Fixture	0.1300	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
131 Watt Exterior Canopy or Soffit LED Fixture	0.1310	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
131 Watt Exterior Canopy or Soffit LED Fixture	0.1310	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
131 Watt Exterior Canopy or Soffit LED Fixture	0.1310	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
132 Watt Exterior Canopy or Soffit LED Fixture	0.1320	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
132 Watt Exterior Canopy or Soffit LED Fixture	0.1320	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
132 Watt Exterior Canopy or Soffit LED Fixture	0.1320	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
133 Watt Exterior Canopy or Soffit LED Fixture	0.1330	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
133 Watt Exterior Canopy or Soffit LED Fixture	0.1330	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
133 Watt Exterior Canopy or Soffit LED Fixture	0.1330	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
134 Watt Exterior Canopy or Soffit LED Fixture	0.1340	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
134 Watt Exterior Canopy or Soffit LED Fixture	0.1340	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
134 Watt Exterior Canopy or Soffit LED Fixture	0.1340	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
135 Watt Exterior Canopy or Soffit LED Fixture	0.1350	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
135 Watt Exterior Canopy or Soffit LED Fixture	0.1350	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
135 Watt Exterior Canopy or Soffit LED Fixture	0.1350	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
136 Watt Exterior Canopy or Soffit LED Fixture	0.1360	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
136 Watt Exterior Canopy or Soffit LED Fixture	0.1360	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
136 Watt Exterior Canopy or Soffit LED Fixture	0.1360	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
137 Watt Exterior Canopy or Soffit LED Fixture	0.1370	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
137 Watt Exterior Canopy or Soffit LED Fixture	0.1370	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
137 Watt Exterior Canopy or Soffit LED Fixture	0.1370	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
138 Watt Exterior Canopy or Soffit LED Fixture	0.1380	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
138 Watt Exterior Canopy or Soffit LED Fixture	0.1380	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
138 Watt Exterior Canopy or Soffit LED Fixture	0.1380	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
139 Watt Exterior Canopy or Soffit LED Fixture	0.1390	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
139 Watt Exterior Canopy or Soffit LED Fixture	0.1390	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
139 Watt Exterior Canopy or Soffit LED Fixture	0.1390	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
140 Watt Exterior Canopy or Soffit LED Fixture	0.1400	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
140 Watt Exterior Canopy or Soffit LED Fixture	0.1400	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
140 Watt Exterior Canopy or Soffit LED Fixture	0.1400	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
141 Watt Exterior Canopy or Soffit LED Fixture	0.1410	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
141 Watt Exterior Canopy or Soffit LED Fixture	0.1410	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
141 Watt Exterior Canopy or Soffit LED Fixture	0.1410	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
142 Watt Exterior Canopy or Soffit LED Fixture	0.1420	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
142 Watt Exterior Canopy or Soffit LED Fixture	0.1420	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
142 Watt Exterior Canopy or Soffit LED Fixture	0.1420	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
143 Watt Exterior Canopy or Soffit LED Fixture	0.1430	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
143 Watt Exterior Canopy or Soffit LED Fixture	0.1430	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
143 Watt Exterior Canopy or Soffit LED Fixture	0.1430	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
144 Watt Exterior Canopy or Soffit LED Fixture	0.1440	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
144 Watt Exterior Canopy or Soffit LED Fixture	0.1440	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
144 Watt Exterior Canopy or Soffit LED Fixture	0.1440	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
145 Watt Exterior Canopy or Soffit LED Fixture	0.1450	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
145 Watt Exterior Canopy or Soffit LED Fixture	0.1450	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
145 Watt Exterior Canopy or Soffit LED Fixture	0.1450	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
146 Watt Exterior Canopy or Soffit LED Fixture	0.1460	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
146 Watt Exterior Canopy or Soffit LED Fixture	0.1460	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
146 Watt Exterior Canopy or Soffit LED Fixture	0.1460	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
147 Watt Exterior Canopy or Soffit LED Fixture	0.1470	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
147 Watt Exterior Canopy or Soffit LED Fixture	0.1470	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
147 Watt Exterior Canopy or Soffit LED Fixture	0.1470	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
148 Watt Exterior Canopy or Soffit LED Fixture	0.1480	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
148 Watt Exterior Canopy or Soffit LED Fixture	0.1480	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
148 Watt Exterior Canopy or Soffit LED Fixture	0.1480	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
149 Watt Exterior Canopy or Soffit LED Fixture	0.1490	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
149 Watt Exterior Canopy or Soffit LED Fixture	0.1490	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
149 Watt Exterior Canopy or Soffit LED Fixture	0.1490	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
150 Watt Exterior Canopy or Soffit LED Fixture	0.1500	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$707.00
150 Watt Exterior Canopy or Soffit LED Fixture	0.1500	400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650	$707.00
150 Watt Exterior Canopy or Soffit LED Fixture	0.1500	450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060	$707.00
15 Watt Refrigerated Case LED Strip	0.0150	T8 5 Foot 55W Fluorescent	0.0700	$171.36
15 Watt Refrigerated Case LED Strip	0.0150	T8 6 Foot 66W Fluorescent	0.0810	$171.36
15 Watt Refrigerated Case LED Strip	0.0150	T12 5 Foot 75W Fluorescent	0.0975	$171.36
15 Watt Refrigerated Case LED Strip	0.0150	T12 6 Foot 85W Fluorescent	0.1060	$171.36
16 Watt Refrigerated Case LED Strip	0.0160	T8 5 Foot 55W Fluorescent	0.0700	$171.36
16 Watt Refrigerated Case LED Strip	0.0160	T8 6 Foot 66W Fluorescent	0.0810	$171.36
16 Watt Refrigerated Case LED Strip	0.0160	T12 5 Foot 75W Fluorescent	0.0975	$171.36
16 Watt Refrigerated Case LED Strip	0.0160	T12 6 Foot 85W Fluorescent	0.1060	$171.36
17 Watt Refrigerated Case LED Strip	0.0170	T8 5 Foot 55W Fluorescent	0.0700	$171.36
17 Watt Refrigerated Case LED Strip	0.0170	T8 6 Foot 66W Fluorescent	0.0810	$171.36
17 Watt Refrigerated Case LED Strip	0.0170	T12 5 Foot 75W Fluorescent	0.0975	$171.36
17 Watt Refrigerated Case LED Strip	0.0170	T12 6 Foot 85W Fluorescent	0.1060	$171.36
18 Watt Refrigerated Case LED Strip	0.0180	T8 5 Foot 55W Fluorescent	0.0700	$171.36
18 Watt Refrigerated Case LED Strip	0.0180	T8 6 Foot 66W Fluorescent	0.0810	$171.36
18 Watt Refrigerated Case LED Strip	0.0180	T12 5 Foot 75W Fluorescent	0.0975	$171.36
18 Watt Refrigerated Case LED Strip	0.0180	T12 6 Foot 85W Fluorescent	0.1060	$171.36
19 Watt Refrigerated Case LED Strip	0.0190	T8 5 Foot 55W Fluorescent	0.0700	$171.36

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
19 Watt Refrigerated Case LED Strip	0.0190	T8 6 Foot 66W Fluorescent	0.0810	$171.36
19 Watt Refrigerated Case LED Strip	0.0190	T12 5 Foot 75W Fluorescent	0.0975	$171.36
19 Watt Refrigerated Case LED Strip	0.0190	T12 6 Foot 85W Fluorescent	0.1060	$171.36
20 Watt Refrigerated Case LED Strip	0.0200	T8 5 Foot 55W Fluorescent	0.0700	$171.36
20 Watt Refrigerated Case LED Strip	0.0200	T8 6 Foot 66W Fluorescent	0.0810	$171.36
20 Watt Refrigerated Case LED Strip	0.0200	T12 5 Foot 75W Fluorescent	0.0975	$171.36
20 Watt Refrigerated Case LED Strip	0.0200	T12 6 Foot 85W Fluorescent	0.1060	$171.36
21 Watt Refrigerated Case LED Strip	0.0210	T8 5 Foot 55W Fluorescent	0.0700	$171.36
21 Watt Refrigerated Case LED Strip	0.0210	T8 6 Foot 66W Fluorescent	0.0810	$171.36
21 Watt Refrigerated Case LED Strip	0.0210	T12 5 Foot 75W Fluorescent	0.0975	$171.36
21 Watt Refrigerated Case LED Strip	0.0210	T12 6 Foot 85W Fluorescent	0.1060	$171.36
22 Watt Refrigerated Case LED Strip	0.0220	T8 5 Foot 55W Fluorescent	0.0700	$171.36
22 Watt Refrigerated Case LED Strip	0.0220	T8 6 Foot 66W Fluorescent	0.0810	$171.36
22 Watt Refrigerated Case LED Strip	0.0220	T12 5 Foot 75W Fluorescent	0.0975	$171.36
22 Watt Refrigerated Case LED Strip	0.0220	T12 6 Foot 85W Fluorescent	0.1060	$171.36
23 Watt Refrigerated Case LED Strip	0.0230	T8 5 Foot 55W Fluorescent	0.0700	$171.36
23 Watt Refrigerated Case LED Strip	0.0230	T8 6 Foot 66W Fluorescent	0.0810	$171.36
23 Watt Refrigerated Case LED Strip	0.0230	T12 5 Foot 75W Fluorescent	0.0975	$171.36
23 Watt Refrigerated Case LED Strip	0.0230	T12 6 Foot 85W Fluorescent	0.1060	$171.36
24 Watt Refrigerated Case LED Strip	0.0240	T8 5 Foot 55W Fluorescent	0.0700	$171.36
24 Watt Refrigerated Case LED Strip	0.0240	T8 6 Foot 66W Fluorescent	0.0810	$171.36
24 Watt Refrigerated Case LED Strip	0.0240	T12 5 Foot 75W Fluorescent	0.0975	$171.36
24 Watt Refrigerated Case LED Strip	0.0240	T12 6 Foot 85W Fluorescent	0.1060	$171.36
25 Watt Refrigerated Case LED Strip	0.0250	T8 5 Foot 55W Fluorescent	0.0700	$171.36
25 Watt Refrigerated Case LED Strip	0.0250	T8 6 Foot 66W Fluorescent	0.0810	$171.36
25 Watt Refrigerated Case LED Strip	0.0250	T12 5 Foot 75W Fluorescent	0.0975	$171.36
25 Watt Refrigerated Case LED Strip	0.0250	T12 6 Foot 85W Fluorescent	0.1060	$171.36
26 Watt Refrigerated Case LED Strip	0.0260	T8 5 Foot 55W Fluorescent	0.0700	$171.36
26 Watt Refrigerated Case LED Strip	0.0260	T8 6 Foot 66W Fluorescent	0.0810	$171.36
26 Watt Refrigerated Case LED Strip	0.0260	T12 5 Foot 75W Fluorescent	0.0975	$171.36
26 Watt Refrigerated Case LED Strip	0.0260	T12 6 Foot 85W Fluorescent	0.1060	$171.36
27 Watt Refrigerated Case LED Strip	0.0270	T8 5 Foot 55W Fluorescent	0.0700	$171.36
27 Watt Refrigerated Case LED Strip	0.0270	T8 6 Foot 66W Fluorescent	0.0810	$171.36
27 Watt Refrigerated Case LED Strip	0.0270	T12 5 Foot 75W Fluorescent	0.0975	$171.36
27 Watt Refrigerated Case LED Strip	0.0270	T12 6 Foot 85W Fluorescent	0.1060	$171.36
28 Watt Refrigerated Case LED Strip	0.0280	T8 5 Foot 55W Fluorescent	0.0700	$171.36
28 Watt Refrigerated Case LED Strip	0.0280	T8 6 Foot 66W Fluorescent	0.0810	$171.36
28 Watt Refrigerated Case LED Strip	0.0280	T12 5 Foot 75W Fluorescent	0.0975	$171.36
28 Watt Refrigerated Case LED Strip	0.0280	T12 6 Foot 85W Fluorescent	0.1060	$171.36
29 Watt Refrigerated Case LED Strip	0.0290	T8 5 Foot 55W Fluorescent	0.0700	$171.36
29 Watt Refrigerated Case LED Strip	0.0290	T8 6 Foot 66W Fluorescent	0.0810	$171.36
29 Watt Refrigerated Case LED Strip	0.0290	T12 5 Foot 75W Fluorescent	0.0975	$171.36
29 Watt Refrigerated Case LED Strip	0.0290	T12 6 Foot 85W Fluorescent	0.1060	$171.36
30 Watt Refrigerated Case LED Strip	0.0300	T8 5 Foot 55W Fluorescent	0.0700	$171.36
30 Watt Refrigerated Case LED Strip	0.0300	T8 6 Foot 66W Fluorescent	0.0810	$171.36
30 Watt Refrigerated Case LED Strip	0.0300	T12 5 Foot 75W Fluorescent	0.0975	$171.36
30 Watt Refrigerated Case LED Strip	0.0300	T12 6 Foot 85W Fluorescent	0.1060	$171.36
31 Watt Refrigerated Case LED Strip	0.0310	T8 5 Foot 55W Fluorescent	0.0700	$171.36

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
31 Watt Refrigerated Case LED Strip	0.0310	T8 6 Foot 66W Fluorescent	0.0810	$171.36
31 Watt Refrigerated Case LED Strip	0.0310	T12 5 Foot 75W Fluorescent	0.0975	$171.36
31 Watt Refrigerated Case LED Strip	0.0310	T12 6 Foot 85W Fluorescent	0.1060	$171.36
32 Watt Refrigerated Case LED Strip	0.0320	T8 5 Foot 55W Fluorescent	0.0700	$171.36
32 Watt Refrigerated Case LED Strip	0.0320	T8 6 Foot 66W Fluorescent	0.0810	$171.36
32 Watt Refrigerated Case LED Strip	0.0320	T12 5 Foot 75W Fluorescent	0.0975	$171.36
32 Watt Refrigerated Case LED Strip	0.0320	T12 6 Foot 85W Fluorescent	0.1060	$171.36
33 Watt Refrigerated Case LED Strip	0.0330	T8 5 Foot 55W Fluorescent	0.0700	$171.36
33 Watt Refrigerated Case LED Strip	0.0330	T8 6 Foot 66W Fluorescent	0.0810	$171.36
33 Watt Refrigerated Case LED Strip	0.0330	T12 5 Foot 75W Fluorescent	0.0975	$171.36
33 Watt Refrigerated Case LED Strip	0.0330	T12 6 Foot 85W Fluorescent	0.1060	$171.36
34 Watt Refrigerated Case LED Strip	0.0340	T8 5 Foot 55W Fluorescent	0.0700	$171.36
34 Watt Refrigerated Case LED Strip	0.0340	T8 6 Foot 66W Fluorescent	0.0810	$171.36
34 Watt Refrigerated Case LED Strip	0.0340	T12 5 Foot 75W Fluorescent	0.0975	$171.36
34 Watt Refrigerated Case LED Strip	0.0340	T12 6 Foot 85W Fluorescent	0.1060	$171.36
35 Watt Refrigerated Case LED Strip	0.0350	T8 5 Foot 55W Fluorescent	0.0700	$171.36
35 Watt Refrigerated Case LED Strip	0.0350	T8 6 Foot 66W Fluorescent	0.0810	$171.36
35 Watt Refrigerated Case LED Strip	0.0350	T12 5 Foot 75W Fluorescent	0.0975	$171.36
35 Watt Refrigerated Case LED Strip	0.0350	T12 6 Foot 85W Fluorescent	0.1060	$171.36
36 Watt Refrigerated Case LED Strip	0.0360	T8 5 Foot 55W Fluorescent	0.0700	$171.36
36 Watt Refrigerated Case LED Strip	0.0360	T8 6 Foot 66W Fluorescent	0.0810	$171.36
36 Watt Refrigerated Case LED Strip	0.0360	T12 5 Foot 75W Fluorescent	0.0975	$171.36
36 Watt Refrigerated Case LED Strip	0.0360	T12 6 Foot 85W Fluorescent	0.1060	$171.36
37 Watt Refrigerated Case LED Strip	0.0370	T8 5 Foot 55W Fluorescent	0.0700	$171.36
37 Watt Refrigerated Case LED Strip	0.0370	T8 6 Foot 66W Fluorescent	0.0810	$171.36
37 Watt Refrigerated Case LED Strip	0.0370	T12 5 Foot 75W Fluorescent	0.0975	$171.36
37 Watt Refrigerated Case LED Strip	0.0370	T12 6 Foot 85W Fluorescent	0.1060	$171.36
38 Watt Refrigerated Case LED Strip	0.0380	T8 5 Foot 55W Fluorescent	0.0700	$171.36
38 Watt Refrigerated Case LED Strip	0.0380	T8 6 Foot 66W Fluorescent	0.0810	$171.36
38 Watt Refrigerated Case LED Strip	0.0380	T12 5 Foot 75W Fluorescent	0.0975	$171.36
38 Watt Refrigerated Case LED Strip	0.0380	T12 6 Foot 85W Fluorescent	0.1060	$171.36
39 Watt Refrigerated Case LED Strip	0.0390	T8 5 Foot 55W Fluorescent	0.0700	$171.36
39 Watt Refrigerated Case LED Strip	0.0390	T8 6 Foot 66W Fluorescent	0.0810	$171.36
39 Watt Refrigerated Case LED Strip	0.0390	T12 5 Foot 75W Fluorescent	0.0975	$171.36
39 Watt Refrigerated Case LED Strip	0.0390	T12 6 Foot 85W Fluorescent	0.1060	$171.36
40 Watt Refrigerated Case LED Strip	0.0400	T8 5 Foot 55W Fluorescent	0.0700	$171.36
40 Watt Refrigerated Case LED Strip	0.0400	T8 6 Foot 66W Fluorescent	0.0810	$171.36
40 Watt Refrigerated Case LED Strip	0.0400	T12 5 Foot 75W Fluorescent	0.0975	$171.36
40 Watt Refrigerated Case LED Strip	0.0400	T12 6 Foot 85W Fluorescent	0.1060	$171.36
41 Watt Refrigerated Case LED Strip	0.0410	T8 5 Foot 55W Fluorescent	0.0700	$171.36
41 Watt Refrigerated Case LED Strip	0.0410	T8 6 Foot 66W Fluorescent	0.0810	$171.36
41 Watt Refrigerated Case LED Strip	0.0410	T12 5 Foot 75W Fluorescent	0.0975	$171.36
41 Watt Refrigerated Case LED Strip	0.0410	T12 6 Foot 85W Fluorescent	0.1060	$171.36
42 Watt Refrigerated Case LED Strip	0.0420	T8 5 Foot 55W Fluorescent	0.0700	$171.36
42 Watt Refrigerated Case LED Strip	0.0420	T8 6 Foot 66W Fluorescent	0.0810	$171.36
42 Watt Refrigerated Case LED Strip	0.0420	T12 5 Foot 75W Fluorescent	0.0975	$171.36
42 Watt Refrigerated Case LED Strip	0.0420	T12 6 Foot 85W Fluorescent	0.1060	$171.36
43 Watt Refrigerated Case LED Strip	0.0430	T8 5 Foot 55W Fluorescent	0.0700	$171.36

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
43 Watt Refrigerated Case LED Strip	0.0430	T8 6 Foot 66W Fluorescent	0.0810	$171.36
43 Watt Refrigerated Case LED Strip	0.0430	T12 5 Foot 75W Fluorescent	0.0975	$171.36
43 Watt Refrigerated Case LED Strip	0.0430	T12 6 Foot 85W Fluorescent	0.1060	$171.36
44 Watt Refrigerated Case LED Strip	0.0440	T8 5 Foot 55W Fluorescent	0.0700	$171.36
44 Watt Refrigerated Case LED Strip	0.0440	T8 6 Foot 66W Fluorescent	0.0810	$171.36
44 Watt Refrigerated Case LED Strip	0.0440	T12 5 Foot 75W Fluorescent	0.0975	$171.36
44 Watt Refrigerated Case LED Strip	0.0440	T12 6 Foot 85W Fluorescent	0.1060	$171.36
45 Watt Refrigerated Case LED Strip	0.0450	T8 5 Foot 55W Fluorescent	0.0700	$171.36
45 Watt Refrigerated Case LED Strip	0.0450	T8 6 Foot 66W Fluorescent	0.0810	$171.36
45 Watt Refrigerated Case LED Strip	0.0450	T12 5 Foot 75W Fluorescent	0.0975	$171.36
45 Watt Refrigerated Case LED Strip	0.0450	T12 6 Foot 85W Fluorescent	0.1060	$171.36
46 Watt Refrigerated Case LED Strip	0.0460	T8 5 Foot 55W Fluorescent	0.0700	$171.36
46 Watt Refrigerated Case LED Strip	0.0460	T8 6 Foot 66W Fluorescent	0.0810	$171.36
46 Watt Refrigerated Case LED Strip	0.0460	T12 5 Foot 75W Fluorescent	0.0975	$171.36
46 Watt Refrigerated Case LED Strip	0.0460	T12 6 Foot 85W Fluorescent	0.1060	$171.36
47 Watt Refrigerated Case LED Strip	0.0470	T8 5 Foot 55W Fluorescent	0.0700	$171.36
47 Watt Refrigerated Case LED Strip	0.0470	T8 6 Foot 66W Fluorescent	0.0810	$171.36
47 Watt Refrigerated Case LED Strip	0.0470	T12 5 Foot 75W Fluorescent	0.0975	$171.36
47 Watt Refrigerated Case LED Strip	0.0470	T12 6 Foot 85W Fluorescent	0.1060	$171.36
48 Watt Refrigerated Case LED Strip	0.0480	T8 5 Foot 55W Fluorescent	0.0700	$171.36
48 Watt Refrigerated Case LED Strip	0.0480	T8 6 Foot 66W Fluorescent	0.0810	$171.36
48 Watt Refrigerated Case LED Strip	0.0480	T12 5 Foot 75W Fluorescent	0.0975	$171.36
48 Watt Refrigerated Case LED Strip	0.0480	T12 6 Foot 85W Fluorescent	0.1060	$171.36
49 Watt Refrigerated Case LED Strip	0.0490	T8 5 Foot 55W Fluorescent	0.0700	$171.36
49 Watt Refrigerated Case LED Strip	0.0490	T8 6 Foot 66W Fluorescent	0.0810	$171.36
49 Watt Refrigerated Case LED Strip	0.0490	T12 5 Foot 75W Fluorescent	0.0975	$171.36
49 Watt Refrigerated Case LED Strip	0.0490	T12 6 Foot 85W Fluorescent	0.1060	$171.36
50 Watt Refrigerated Case LED Strip	0.0500	T8 5 Foot 55W Fluorescent	0.0700	$171.36
50 Watt Refrigerated Case LED Strip	0.0500	T8 6 Foot 66W Fluorescent	0.0810	$171.36
50 Watt Refrigerated Case LED Strip	0.0500	T12 5 Foot 75W Fluorescent	0.0975	$171.36
50 Watt Refrigerated Case LED Strip	0.0500	T12 6 Foot 85W Fluorescent	0.1060	$171.36
(1) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0206	(1) F20T12 24" 20W Lamp	0.0196	$41.45
(1) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0206	(1) F20T12 24" 20W Lamp	0.0133	$41.45
(1) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0206	(1) F20T12 24" 20W Lamp	0.0150	$41.45
(1) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0300	(1) F30T12 36" 30W Lamp, electronic ballast	0.0288	$41.45
(1) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0397	(1) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0288	$41.45
(1) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0300	(1) F30T12 36" 30W Lamp, electronic ballast	0.0195	$41.45
(1) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0397	(1) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0195	$41.45
(1) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0300	(1) F30T12 36" 30W Lamp, electronic ballast	0.0220	$41.45
(1) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0397	(1) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0220	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0420	(1) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0368	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0451	(1) F40T12 48" 34W Lamp, magnetic ballast	0.0368	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0380	(1) T12 40W Lamp with Electronic Ballast	0.0368	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0406	(1) T12 40W Lamp with ES Magnetic Ballast	0.0368	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0510	(1) T12 40W Lamp with Magnetic Ballast	0.0368	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1500	Incandescent, 1-A 150W, no ballast	0.0368	$41.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0420	(1) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0282	$43.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0451	(1) F40T12 48" 34W Lamp, magnetic ballast	0.0282	$43.45

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0380	(1) T12 40W Lamp with Electronic Ballast	0.0282	$43.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0406	(1) T12 40W Lamp with ES Magnetic Ballast	0.0282	$43.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0510	(1) T12 40W Lamp with Magnetic Ballast	0.0282	$43.45
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1500	Incandescent, 1-A 150W, no ballast	0.0282	$43.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0420	(1) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0451	(1) F40T12 48" 34W Lamp, magnetic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0406	(1) T12 40W Lamp with ES Magnetic Ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0510	(1) T12 40W Lamp with Magnetic Ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0534	(2) F20T12 24" 20W Lamp	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0534	(2) F20T12 24" 20W Lamp	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W U Bend Lamp, energy saving magnetic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0710	(2) T12 40W U Bend Lamp with Electronic Ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0970	(2) T12 40W U Bend Lamp with Magnetic Ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0534	(2) F20T12 24" 20W Lamp	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0310	(1) F40T12 48" 34W Lamp, electronic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0420	(1) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0451	(1) F40T12 48" 34W Lamp, magnetic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0380	(1) T12 40W Lamp with Electronic Ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0406	(1) T12 40W Lamp with ES Magnetic Ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0510	(1) T12 40W Lamp with Magnetic Ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0534	(2) F20T12 24" 20W Lamp	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0310	(1) F40T12 48" 34W Lamp, electronic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0420	(1) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0451	(1) F40T12 48" 34W Lamp, magnetic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0380	(1) T12 40W Lamp with Electronic Ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0406	(1) T12 40W Lamp with ES Magnetic Ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0510	(1) T12 40W Lamp with Magnetic Ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0534	(2) F20T12 24" 20W Lamp	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0380	(1) T12 40W Lamp with Electronic Ballast	0.0299	$41.45
(2) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0600	(2) F30T12 36" 30W Lamp, electronic ballast	0.0575	$41.45
(2) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0750	(2) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0575	$41.45
(2) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0600	(2) F30T12 36" 30W Lamp, electronic ballast	0.0390	$41.45
(2) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0750	(2) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0390	$41.45
(2) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0600	(2) F30T12 36" 30W Lamp, electronic ballast	0.0440	$41.45
(2) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0750	(2) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0440	$41.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1190	(1) T12 8 foot 110W Lamp with Electronic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1206	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0840	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0941	(1) T12 8 foot 75W Lamp with Energy Saving magnetic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1250	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0865	(2) T12 40W Lamp with ES Magnetic Ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0970	(2) T12 40W Lamp with Magnetic Ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1500	Incandescent, 1-A 150W, no ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0670	(1) F96T12ES 8' 60W lamp, electronic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0740	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1190	(1) T12 8 foot 110W Lamp with Electronic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1206	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0840	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0563	$43.45

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0941	(1) T12 8 foot 75W Lamp with Energy Saving magnetic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1250	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0600	(2) F40T12 48" 34W Lamp, electronic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0842	(2) F40T12 48" 34W Lamp, magnetic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0710	(2) T12 40W Lamp with Electronic Ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0865	(2) T12 40W Lamp with ES Magnetic Ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0970	(2) T12 40W Lamp with Magnetic Ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1500	Incandescent, 1-A 150W, no ballast	0.0563	$43.45
F32T8 25W Lamp High Ballast Factor	0.0368	F32T8 32W Lamp in high ballast factor fixture	0.0288	$2.00
F32T8 25W Lamp Low Ballast Factor	0.0250	F32T8 32W Lamp in low ballast factor fixture	0.0195	$2.00
F32T8 25W Lamp Normal Ballast Factor	0.0282	F32T8 32W Lamp in normal ballast factor fixture	0.0220	$2.00
F32T8 28W Lamp High Ballast Factor	0.0368	F32T8 32W Lamp in high ballast factor fixture	0.0322	$2.00
F32T8 28W Lamp Low Ballast Factor	0.0250	F32T8 32W Lamp in low ballast factor fixture	0.0218	$2.00
F32T8 28W Lamp Normal Factor	0.0282	F32T8 32W Lamp in normal ballast factor fixture	0.0246	$2.00
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0600	(2) F40T12 48" 34W U Bend Lamp, electronic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W U Bend Lamp, energy saving magnetic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0710	(2) T12 40W U Bend Lamp with Electronic Ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0970	(2) T12 40W U Bend Lamp with Magnetic Ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0910	(4) F20T12 24" 20W Lamp	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0600	(2) F40T12 48" 34W U Bend Lamp, electronic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W U Bend Lamp, energy saving magnetic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0710	(2) T12 40W U Bend Lamp with Electronic Ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0970	(2) T12 40W U Bend Lamp with Magnetic Ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0640	(3) F20T12 24" 20W Lamp	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0600	(2) F40T12 48" 34W U Bend Lamp, electronic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W U Bend Lamp, energy saving magnetic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0710	(2) T12 40W U Bend Lamp with Electronic Ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0970	(2) T12 40W U Bend Lamp with Magnetic Ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0640	(3) F20T12 24" 20W Lamp	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0640	(3) F20T12 24" 20W Lamp	0.0449	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0900	(3) F30T12 36" 30W Lamp, electronic ballast	0.0860	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.1130	(3) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0860	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0900	(3) F30T12 36" 30W Lamp, electronic ballast	0.0860	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.1130	(3) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0860	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0900	(3) F30T12 36" 30W Lamp, electronic ballast	0.0630	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.1130	(3) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0630	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.1130	(3) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0630	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0900	(3) F30T12 36" 30W Lamp, electronic ballast	0.0720	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1130	(3) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0720	$43.45
(3) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0900	(3) F30T12 36" 30W Lamp, electronic ballast	0.0720	$43.45
(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1270	(3) F40T12 48" 34W Lamp, magnetic ballast	0.1104	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1410	(3) T12 40W Lamp with ES Magnetic Ballast	0.1104	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1350	(3) T12 40W Lamp with Magnetic Ballast	0.1104	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.3000	Incandescent, 300 Watt	0.1104	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0910	(3) F40T12 48" 34W Lamp, electronic ballast	0.0845	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1040	(3) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0845	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1270	(3) F40T12 48" 34W Lamp, magnetic ballast	0.0845	$53.45

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1070	(3) T12 40W Lamp with Electronic Ballast	0.0845	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1410	(3) T12 40W Lamp with ES Magnetic Ballast	0.0845	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1350	(3) T12 40W Lamp with Magnetic Ballast	0.0845	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.2500	Incandescent, 250 Watt	0.0845	$53.45
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.3000	Incandescent, 300 Watt	0.0845	$53.45
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0970	(2) T12 40W U Bend Lamp with Magnetic Ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0910	(4) F20T12 24" 20W Lamp	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0600	(2) F40T12 48" 34W U Bend Lamp, electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W U Bend Lamp, energy saving magnetic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0710	(2) T12 40W U Bend Lamp with Electronic Ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0970	(2) T12 40W U Bend Lamp with Magnetic Ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0910	(4) F20T12 24" 20W Lamp	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W U Bend Lamp, energy saving magnetic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0710	(2) T12 40W U Bend Lamp with Electronic Ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0970	(2) T12 40W U Bend Lamp with Magnetic Ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0910	(4) F20T12 24" 20W Lamp	0.0598	$38.18
(4) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.1380	(4) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.1110	$76.17
(4) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.1380	(4) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0850	$76.17
(4) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1380	(4) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0740	$76.17
(4) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1380	(4) F30T12 36" 30W Lamp, energy saving magnetic ballast	0.0740	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.2050	(2) T12 8 foot 110W Lamp with Electronic ballast	0.1472	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.2376	(2) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1472	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1700	(2) T12 8 foot 95W Lamp with Electronic ballast	0.1472	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.2160	(2) T12 8 foot 95W Lamp with Magnetic ballast	0.1472	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.2500	Incandescent, 250 Watt	0.1472	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.3000	Incandescent, 300 Watt	0.1472	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.2050	(2) T12 8 foot 110W Lamp with Electronic ballast	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.2376	(2) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1330	(2) T12 8 foot 75W Lamp with Electronic ballast	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1450	(2) T12 8 foot 75W Lamp with magnetic ballast	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1700	(2) T12 8 foot 95W Lamp with Electronic ballast	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.2160	(2) T12 8 foot 95W Lamp with Magnetic ballast	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1190	(4) F40T12 48" 34W Lamp, electronic ballast	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1440	(4) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.2500	Incandescent, 250 Watt	0.1126	$76.17
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.3000	Incandescent, 300 Watt	0.1126	$76.17
Fluorescent, (1) 96", T-8 lamp, high efficiency high ballast factor electronic ballast	0.0740	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0679	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency high ballast factor electronic ballast	0.1190	(1) T12 8 foot 110W Lamp with Electronic ballast	0.0679	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency high ballast factor electronic ballast	0.1206	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.0679	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency high ballast factor electronic ballast	0.0941	(1) T12 8 foot 75W Lamp with Energy Saving magnetic ballast	0.0679	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency high ballast factor electronic ballast	0.1250	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.0679	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0670	(1) F96T12ES 8' 60W lamp, electronic ballast	0.0470	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0740	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0470	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.1190	(1) T12 8 foot 110W Lamp with Electronic ballast	0.0470	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.1206	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.0470	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0840	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0470	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0941	(1) T12 8 foot 75W Lamp with Energy Saving magnetic ballast	0.0470	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.1250	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.0470	$171.36

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
Fluorescent, (1) 96", T-8 lamp, high efficiency normal ballast factor electronic ballast	0.0670	(1) F96T12ES 8' 60W lamp, electronic ballast	0.0519	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency normal ballast factor electronic ballast	0.0740	(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0519	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency normal ballast factor electronic ballast	0.1190	(1) T12 8 foot 110W Lamp with Electronic ballast	0.0519	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency normal ballast factor electronic ballast	0.1206	(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.0519	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency normal ballast factor electronic ballast	0.0840	(1) T12 8 foot 75W Lamp with Electronic ballast	0.0519	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency normal ballast factor electronic ballast	0.0941	(1) T12 8 foot 75W Lamp with Energy Saving magnetic ballast	0.0519	$171.36
Fluorescent, (1) 96", T-8 lamp, high efficiency normal ballast factor electronic ballast	0.1250	(1) T12 8 foot 95W Lamp with Magnetic ballast	0.0519	$171.36
Fluorescent, (2) 96", T-8 lamp, high ballast factor high efficiency electronic ballast	0.2050	(2) T12 8 foot 110W Lamp with Electronic ballast	0.1357	$171.36
Fluorescent, (2) 96", T-8 lamp, high ballast factor high efficiency electronic ballast	0.2376	(2) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1357	$171.36
Fluorescent, (2) 96", T-8 lamp, high ballast factor high efficiency electronic ballast	0.1450	(2) T12 8 foot 75W Lamp with magnetic ballast	0.1357	$171.36
Fluorescent, (2) 96", T-8 lamp, high ballast factor high efficiency electronic ballast	0.1700	(2) T12 8 foot 95W Lamp with Electronic ballast	0.1357	$171.36
Fluorescent, (2) 96", T-8 lamp, high ballast factor high efficiency electronic ballast	0.2160	(2) T12 8 foot 95W Lamp with Magnetic ballast	0.1357	$171.36
Fluorescent, (2) 96", T-8 lamp, low ballast factor high efficiency electronic ballast	0.1050	(2) F96T12ES 8' 60W Lamp, electronic ballast	0.0940	$171.36
Fluorescent, (2) 96", T-8 lamp, low ballast factor high efficiency electronic ballast	0.1130	(2) F96T12ES 8' 60W Lamp, energy savings magnetic ballast	0.0940	$171.36
Fluorescent, (2) 96", T-8 lamp, low ballast factor high efficiency electronic ballast	0.2050	(2) T12 8 foot 110W Lamp with Electronic ballast	0.0940	$171.36
Fluorescent, (2) 96", T-8 lamp, low ballast factor high efficiency electronic ballast	0.2376	(2) T12 8 foot 110W Lamp with ES Magnetic ballast	0.0940	$171.36
Fluorescent, (2) 96", T-8 lamp, low ballast factor high efficiency electronic ballast	0.1330	(2) T12 8 foot 75W Lamp with Electronic ballast	0.0940	$171.36
Fluorescent, (2) 96", T-8 lamp, low ballast factor high efficiency electronic ballast	0.1450	(2) T12 8 foot 75W Lamp with magnetic ballast	0.0940	$171.36
Fluorescent, (2) 96", T-8 lamp, low ballast factor high efficiency electronic ballast	0.1700	(2) T12 8 foot 95W Lamp with Electronic ballast	0.0940	$171.36
Fluorescent, (2) 96", T-8 lamp, low ballast factor high efficiency electronic ballast	0.2160	(2) T12 8 foot 95W Lamp with Magnetic ballast	0.0940	$171.36
Fluorescent, (2) 96", T-8 lamp, normal ballast factor high efficiency electronic ballast	0.1050	(2) F96T12ES 8' 60W Lamp, electronic ballast	0.1038	$171.36
Fluorescent, (2) 96", T-8 lamp, normal ballast factor high efficiency electronic ballast	0.1130	(2) F96T12ES 8' 60W Lamp, energy savings magnetic ballast	0.1038	$171.36
Fluorescent, (2) 96", T-8 lamp, normal ballast factor high efficiency electronic ballast	0.2050	(2) T12 8 foot 110W Lamp with Electronic ballast	0.1038	$171.36
Fluorescent, (2) 96", T-8 lamp, normal ballast factor high efficiency electronic ballast	0.2376	(2) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1038	$171.36
Fluorescent, (2) 96", T-8 lamp, normal ballast factor high efficiency electronic ballast	0.1330	(2) T12 8 foot 75W Lamp with Electronic ballast	0.1038	$171.36
Fluorescent, (2) 96", T-8 lamp, normal ballast factor high efficiency electronic ballast	0.1450	(2) T12 8 foot 75W Lamp with magnetic ballast	0.1038	$171.36
Fluorescent, (2) 96", T-8 lamp, normal ballast factor high efficiency electronic ballast	0.1700	(2) T12 8 foot 95W Lamp with Electronic ballast	0.1038	$171.36
Fluorescent, (2) 96", T-8 lamp, normal ballast factor high efficiency electronic ballast	0.2160	(2) T12 8 foot 95W Lamp with Magnetic ballast	0.1038	$171.36
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0736	(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0499	(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0563	(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0765	(2) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0519	(2) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0586	(2) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0736	(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0499	(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0563	(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0765	(2) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0519	(2) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0586	(2) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0736	(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0499	(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0563	(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0765	(2) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0519	(2) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0586	(2) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0299	$41.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1104	(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0845	(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0587	$43.45

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1148	(3) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0779	(3) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0879	(3) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1104	(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0845	(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1148	(3) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0779	(3) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0879	(3) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1104	(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0845	(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1148	(3) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0779	(3) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0879	(3) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0449	$43.45
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1472	(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0998	(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1126	(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1531	(4) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1038	(4) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1171	(4) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1472	(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0998	(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1126	(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1531	(4) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1038	(4) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1171	(4) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1472	(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0998	(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1126	(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1531	(4) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1038	(4) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1171	(4) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0598	$38.18
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1104	(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1531	(4) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1038	(4) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1171	(4) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0736	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1104	(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0845	(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1531	(4) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1038	(4) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0563	$43.45
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1171	(4) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0563	$43.45
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1531	(4) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1038	(4) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1171	(4) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1531	(4) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1038	(4) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1171	(4) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1531	(4) F32T8 48" 32W Lamp with a standard efficiency, high ballast factor electronic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1038	(4) F32T8 48" 32W Lamp with a standard efficiency, low ballast factor electronic ballast	0.0598	$38.18

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1171	(4) F32T8 48" 32W Lamp with a standard efficiency, normal ballast factor electronic ballast	0.0598	$38.18
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0600	(2) F40T12 48" 34W Lamp, electronic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0710	(2) T12 40W Lamp with Electronic Ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0865	(2) T12 40W Lamp with ES Magnetic Ballast	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0910	(4) F20T12 24" 20W Lamp	0.0391	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0600	(2) F40T12 48" 34W Lamp, electronic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0710	(2) T12 40W Lamp with Electronic Ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0865	(2) T12 40W Lamp with ES Magnetic Ballast	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0910	(4) F20T12 24" 20W Lamp	0.0265	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0600	(2) F40T12 48" 34W Lamp, electronic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0670	(2) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0710	(2) T12 40W Lamp with Electronic Ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0865	(2) T12 40W Lamp with ES Magnetic Ballast	0.0299	$41.45
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0910	(4) F20T12 24" 20W Lamp	0.0299	$41.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0910	(3) F40T12 48" 34W Lamp, electronic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1040	(3) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1270	(3) F40T12 48" 34W Lamp, magnetic ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1070	(3) T12 40W Lamp with Electronic Ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1410	(3) T12 40W Lamp with ES Magnetic Ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1350	(3) T12 40W Lamp with Magnetic Ballast	0.0587	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0910	(3) F40T12 48" 34W Lamp, electronic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1040	(3) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1270	(3) F40T12 48" 34W Lamp, magnetic ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1070	(3) T12 40W Lamp with Electronic Ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1410	(3) T12 40W Lamp with ES Magnetic Ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1350	(3) T12 40W Lamp with Magnetic Ballast	0.0398	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0910	(3) F40T12 48" 34W Lamp, electronic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1040	(3) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1270	(3) F40T12 48" 34W Lamp, magnetic ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1070	(3) T12 40W Lamp with Electronic Ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1410	(3) T12 40W Lamp with ES Magnetic Ballast	0.0449	$43.45
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1350	(3) T12 40W Lamp with Magnetic Ballast	0.0449	$43.45
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1190	(4) F40T12 48" 34W Lamp, electronic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1440	(4) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1560	(4) F40T12 48" 34W Lamp, magnetic ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1340	(4) T12 40W Lamp with Electronic Ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1720	(4) T12 40W Lamp with ES Magnetic Ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.1750	(4) T12 40W Lamp with Magnetic Ballast	0.0782	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1190	(4) F40T12 48" 34W Lamp, electronic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1440	(4) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1560	(4) F40T12 48" 34W Lamp, magnetic ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1340	(4) T12 40W Lamp with Electronic Ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1720	(4) T12 40W Lamp with ES Magnetic Ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.1750	(4) T12 40W Lamp with Magnetic Ballast	0.0530	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1190	(4) F40T12 48" 34W Lamp, electronic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1440	(4) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0598	$38.18

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1560	(4) F40T12 48" 34W Lamp, magnetic ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1340	(4) T12 40W Lamp with Electronic Ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1720	(4) T12 40W Lamp with ES Magnetic Ballast	0.0598	$38.18
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.1750	(4) T12 40W Lamp with Magnetic Ballast	0.0598	$38.18
50W Pulse Start Metal Halide, energy saving magnetic ballast	0.1000	100 watt Incandescent Lamp	0.0620	$272.30
50W Pulse Start Metal Halide, magnetic ballast	0.1000	100 watt Incandescent Lamp	0.0720	$272.30
100 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1000	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1000	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1000	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1000	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1000	$627.80
100 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1000	$627.80
101 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1010	$627.80
101 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1010	$627.80
101 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1010	$627.80
101 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1010	$627.80
101 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1010	$627.80
101 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1010	$627.80
102 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1020	$627.80
102 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1020	$627.80
102 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1020	$627.80
102 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1020	$627.80
102 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1020	$627.80
102 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1020	$627.80
103 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1030	$627.80
103 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1030	$627.80
103 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1030	$627.80
103 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1030	$627.80
103 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1030	$627.80
103 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1030	$627.80
104 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1040	$627.80
104 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1040	$627.80
104 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1040	$627.80
104 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1040	$627.80
104 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1040	$627.80
104 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1040	$627.80
105 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1050	$627.80
105 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1050	$627.80
105 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1050	$627.80
105 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1050	$627.80
105 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1050	$627.80
105 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1050	$627.80
106 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1060	$627.80
106 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1060	$627.80
106 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1060	$627.80
106 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1060	$627.80
106 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1060	$627.80
106 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1060	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
107 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1070	$627.80
107 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1070	$627.80
107 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1070	$627.80
107 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1070	$627.80
107 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1070	$627.80
107 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1070	$627.80
108 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1080	$627.80
108 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1080	$627.80
108 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1080	$627.80
108 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1080	$627.80
108 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1080	$627.80
108 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1080	$627.80
109 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1090	$627.80
109 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1090	$627.80
109 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1090	$627.80
109 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1090	$627.80
109 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1090	$627.80
109 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1090	$627.80
110 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1100	$627.80
110 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1100	$627.80
110 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1100	$627.80
110 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1100	$627.80
110 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1100	$627.80
110 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1100	$627.80
111 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1110	$627.80
111 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1110	$627.80
111 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1110	$627.80
111 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1110	$627.80
111 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1110	$627.80
111 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1110	$627.80
112 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1120	$627.80
112 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1120	$627.80
112 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1120	$627.80
112 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1120	$627.80
112 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1120	$627.80
112 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1120	$627.80
113 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1130	$627.80
113 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1130	$627.80
113 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1130	$627.80
113 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1130	$627.80
113 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1130	$627.80
113 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1130	$627.80
114 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1140	$627.80
114 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1140	$627.80
114 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1140	$627.80
114 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1140	$627.80
114 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1140	$627.80
114 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1140	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
115 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1150	$627.80
115 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1150	$627.80
115 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1150	$627.80
115 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1150	$627.80
115 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1150	$627.80
115 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1150	$627.80
116 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.1160	$627.80
116 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1160	$627.80
116 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1160	$627.80
116 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1160	$627.80
116 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1160	$627.80
116 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1160	$627.80
117 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1170	$627.80
117 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1170	$627.80
117 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1170	$627.80
117 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1170	$627.80
118 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1180	$627.80
118 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1180	$627.80
118 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1180	$627.80
118 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1180	$627.80
119 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1190	$627.80
119 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1190	$627.80
119 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1190	$627.80
119 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1190	$627.80
120 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1200	$627.80
120 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1200	$627.80
120 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1200	$627.80
120 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1200	$627.80
121 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1210	$627.80
121 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1210	$627.80
121 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1210	$627.80
121 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1210	$627.80
122 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1220	$627.80
122 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1220	$627.80
122 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1220	$627.80
122 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1220	$627.80
123 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1230	$627.80
123 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1230	$627.80
123 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1230	$627.80
123 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1230	$627.80
124 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1240	$627.80
124 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1240	$627.80
124 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1240	$627.80
124 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1240	$627.80
125 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1250	$627.80
125 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1250	$627.80
125 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1250	$627.80
125 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1250	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
126 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1260	$627.80
126 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1260	$627.80
126 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1260	$627.80
126 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1260	$627.80
127 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1270	$627.80
127 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1270	$627.80
127 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1270	$627.80
127 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1270	$627.80
128 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1280	$627.80
128 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1280	$627.80
128 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1280	$627.80
128 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1280	$627.80
129 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1290	$627.80
129 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1290	$627.80
129 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1290	$627.80
129 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1290	$627.80
130 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1300	$627.80
130 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1300	$627.80
130 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1300	$627.80
130 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1300	$627.80
131 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1310	$627.80
131 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1310	$627.80
131 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1310	$627.80
131 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1310	$627.80
132 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1320	$627.80
132 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1320	$627.80
132 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1320	$627.80
132 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1320	$627.80
133 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1330	$627.80
133 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1330	$627.80
133 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1330	$627.80
133 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1330	$627.80
134 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1340	$627.80
134 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1340	$627.80
134 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1340	$627.80
134 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1340	$627.80
135 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1350	$627.80
135 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1350	$627.80
135 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1350	$627.80
135 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1350	$627.80
136 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1360	$627.80
136 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1360	$627.80
136 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1360	$627.80
136 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1360	$627.80
137 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1370	$627.80
137 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1370	$627.80
137 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1370	$627.80
137 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1370	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
138 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1380	$627.80
138 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1380	$627.80
138 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1380	$627.80
138 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1380	$627.80
139 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1390	$627.80
139 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1390	$627.80
139 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1390	$627.80
139 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1390	$627.80
140 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1400	$627.80
140 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1400	$627.80
140 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1400	$627.80
140 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1400	$627.80
141 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1410	$627.80
141 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1410	$627.80
141 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1410	$627.80
141 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1410	$627.80
142 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1420	$627.80
142 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1420	$627.80
142 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1420	$627.80
142 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1420	$627.80
143 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1430	$627.80
143 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1430	$627.80
143 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1430	$627.80
143 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1430	$627.80
144 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1440	$627.80
144 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1440	$627.80
144 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1440	$627.80
144 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1440	$627.80
145 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1450	$627.80
145 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1450	$627.80
145 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1450	$627.80
145 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1450	$627.80
146 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1460	$627.80
146 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1460	$627.80
146 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1460	$627.80
146 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1460	$627.80
147 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1470	$627.80
147 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1470	$627.80
147 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1470	$627.80
147 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1470	$627.80
148 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1480	$627.80
148 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1480	$627.80
148 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1480	$627.80
148 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1480	$627.80
149 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1490	$627.80
149 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1490	$627.80
149 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1490	$627.80
149 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1490	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
150 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.1500	$627.80
150 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.1500	$627.80
150 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1500	$627.80
150 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.1500	$627.80
25 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0250	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0250	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0250	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0250	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0250	$668.10
25 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0250	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0260	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0260	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0260	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0260	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0260	$668.10
26 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0260	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0270	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0270	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0270	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0270	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0270	$668.10
27 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0270	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0280	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0280	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0280	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0280	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0280	$668.10
28 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0280	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0290	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0290	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0290	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0290	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0290	$668.10
29 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0290	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0300	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0300	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0300	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0300	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0300	$668.10
30 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0300	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0310	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0310	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0310	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0310	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0310	$668.10
31 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0310	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0320	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0320	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
32 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0320	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0320	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0320	$668.10
32 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0320	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.1300	100 Watt Exterior Canopy or Soffit HPS Fixture	0.0330	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.1220	100 Watt Exterior Canopy or Soffit MV Fixture	0.0330	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.1180	100 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0330	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0330	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0330	$668.10
33 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0330	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0340	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0340	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0340	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0340	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0340	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0340	$668.10
34 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0340	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0350	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0350	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0350	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0350	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0350	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0350	$668.10
35 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0350	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0360	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0360	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0360	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0360	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0360	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0360	$668.10
36 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0360	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0370	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0370	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0370	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0370	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0370	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0370	$668.10
37 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0370	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0380	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0380	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0380	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0380	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0380	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0380	$668.10
38 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0380	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0390	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0390	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0390	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
39 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0390	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0390	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0390	$668.10
39 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0390	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0400	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0400	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0400	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0400	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0400	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0400	$668.10
40 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0400	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.1410	125 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0410	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0410	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0410	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0410	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0410	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0410	$668.10
41 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0410	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0420	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0420	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0420	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0420	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0420	$668.10
42 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0420	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0430	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0430	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0430	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0430	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0430	$668.10
43 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0430	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0440	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0440	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0440	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0440	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0440	$668.10
44 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0440	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0450	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0450	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0450	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0450	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0450	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0450	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0450	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0450	$668.10
45 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0450	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0460	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0460	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0460	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
46 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0460	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0460	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0460	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0460	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0460	$668.10
46 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0460	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0470	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0470	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0470	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0470	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0470	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0470	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0470	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0470	$668.10
47 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0470	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0480	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0480	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0480	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0480	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0480	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0480	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0480	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0480	$668.10
48 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0480	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0490	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0490	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0490	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0490	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0490	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0490	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0490	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0490	$668.10
49 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0490	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0500	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0500	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0500	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0500	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0500	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0500	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0500	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0500	$668.10
50 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0500	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0510	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0510	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0510	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0510	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0510	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0510	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
51 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0510	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0510	$668.10
51 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0510	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0520	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0520	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0520	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0520	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0520	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0520	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0520	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0520	$668.10
52 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0520	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.1880	150 Watt Exterior Canopy or Soffit HPS Fixture	0.0530	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.1730	150 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0530	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0530	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0530	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0530	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0530	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0530	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0530	$668.10
53 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0530	$668.10
54 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0540	$668.10
54 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0540	$668.10
54 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0540	$668.10
54 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0540	$668.10
54 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0540	$668.10
54 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0540	$668.10
54 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0540	$668.10
54 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0540	$627.80
54 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0540	$627.80
55 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0550	$668.10
55 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0550	$668.10
55 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0550	$668.10
55 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0550	$668.10
55 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0550	$668.10
55 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0550	$668.10
55 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0550	$668.10
55 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0550	$627.80
55 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0550	$627.80
56 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0560	$668.10
56 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0560	$668.10
56 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0560	$668.10
56 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0560	$668.10
56 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0560	$668.10
56 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0560	$668.10
56 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0560	$668.10
56 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0560	$627.80
56 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0560	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
57 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0570	$668.10
57 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0570	$668.10
57 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0570	$668.10
57 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0570	$668.10
57 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0570	$668.10
57 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0570	$668.10
57 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0570	$668.10
57 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0570	$627.80
57 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0570	$627.80
58 Watt Exterior Canopy or Soffit LED Fixture	0.2050	175 Watt Exterior Canopy or Soffit MV Fixture	0.0580	$668.10
58 Watt Exterior Canopy or Soffit LED Fixture	0.1890	175 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0580	$668.10
58 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0580	$668.10
58 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0580	$668.10
58 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0580	$668.10
58 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0580	$668.10
58 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0580	$668.10
58 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0580	$627.80
58 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0580	$627.80
59 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0590	$668.10
59 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0590	$668.10
59 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0590	$668.10
59 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0590	$668.10
59 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0590	$668.10
59 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0590	$627.80
59 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0590	$627.80
60 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0600	$668.10
60 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0600	$668.10
60 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0600	$668.10
60 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0600	$668.10
60 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0600	$668.10
60 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0600	$627.80
60 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0600	$627.80
61 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0610	$668.10
61 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0610	$668.10
61 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0610	$668.10
61 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0610	$668.10
61 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0610	$668.10
61 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0610	$627.80
61 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0610	$627.80
62 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0620	$668.10
62 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0620	$668.10
62 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0620	$668.10
62 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0620	$668.10
62 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0620	$668.10
62 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0620	$627.80
62 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0620	$627.80
63 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0630	$668.10
63 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0630	$668.10

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
63 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0630	$668.10
63 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0630	$668.10
63 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0630	$668.10
63 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0630	$627.80
63 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0630	$627.80
64 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0640	$668.10
64 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0640	$668.10
64 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0640	$668.10
64 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0640	$668.10
64 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0640	$668.10
64 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0640	$627.80
64 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0640	$627.80
65 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0650	$668.10
65 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0650	$668.10
65 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0650	$668.10
65 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0650	$668.10
65 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0650	$668.10
65 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0650	$627.80
65 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0650	$627.80
66 Watt Exterior Canopy or Soffit LED Fixture	0.2400	200 Watt Exterior Canopy or Soffit HPS Fixture	0.0660	$668.10
66 Watt Exterior Canopy or Soffit LED Fixture	0.2180	200 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0660	$668.10
66 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0660	$668.10
66 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0660	$668.10
66 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0660	$668.10
66 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0660	$627.80
66 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0660	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0670	$668.10
67 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0670	$668.10
67 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0670	$668.10
67 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0670	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0670	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0670	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0670	$627.80
67 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0670	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0680	$668.10
68 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0680	$668.10
68 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0680	$668.10
68 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0680	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0680	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0680	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0680	$627.80
68 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0680	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0690	$668.10
69 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0690	$668.10
69 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0690	$668.10
69 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0690	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0690	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0690	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
69 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0690	$627.80
69 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0690	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0700	$668.10
70 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0700	$668.10
70 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0700	$668.10
70 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0700	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0700	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0700	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0700	$627.80
70 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0700	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0710	$668.10
71 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0710	$668.10
71 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0710	$668.10
71 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0710	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0710	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0710	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0710	$627.80
71 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0710	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0720	$668.10
72 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0720	$668.10
72 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0720	$668.10
72 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0720	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0720	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0720	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0720	$627.80
72 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0720	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0730	$668.10
73 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0730	$668.10
73 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0730	$668.10
73 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0730	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0730	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0730	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0730	$627.80
73 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0730	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0740	$668.10
74 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0740	$668.10
74 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0740	$668.10
74 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0740	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0740	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0740	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0740	$627.80
74 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0740	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0750	$668.10
75 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0750	$668.10
75 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0750	$668.10
75 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0750	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0750	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0750	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
75 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0750	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0750	$627.80
75 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0750	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0760	$668.10
76 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0760	$668.10
76 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0760	$668.10
76 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0760	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0760	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0760	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0760	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0760	$627.80
76 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0760	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0770	$668.10
77 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0770	$668.10
77 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0770	$668.10
77 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0770	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0770	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0770	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0770	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0770	$627.80
77 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0770	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0780	$668.10
78 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0780	$668.10
78 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0780	$668.10
78 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0780	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0780	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0780	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0780	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0780	$627.80
78 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0780	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0790	$668.10
79 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0790	$668.10
79 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0790	$668.10
79 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0790	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0790	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0790	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0790	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0790	$627.80
79 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0790	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0800	$668.10
80 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0800	$668.10
80 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0800	$668.10
80 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0800	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0800	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0800	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0800	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0800	$627.80
80 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0800	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
81 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0810	$668.10
81 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0810	$668.10
81 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0810	$668.10
81 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0810	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0810	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0810	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0810	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0810	$627.80
81 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0810	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0820	$668.10
82 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0820	$668.10
82 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0820	$668.10
82 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0820	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0820	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0820	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0820	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0820	$627.80
82 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0820	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.2950	250 Watt Exterior Canopy or Soffit HPS Fixture	0.0830	$668.10
83 Watt Exterior Canopy or Soffit LED Fixture	0.2850	250 Watt Exterior Canopy or Soffit MV Fixture	0.0830	$668.10
83 Watt Exterior Canopy or Soffit LED Fixture	0.2720	250 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0830	$668.10
83 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0830	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0830	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0830	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0830	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0830	$627.80
83 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0830	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0840	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0840	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0840	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0840	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0840	$627.80
84 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0840	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0850	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0850	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0850	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0850	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0850	$627.80
85 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0850	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0860	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0860	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0860	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0860	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0860	$627.80
86 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0860	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0870	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0870	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0870	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
87 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0870	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0870	$627.80
87 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0870	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0880	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0880	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0880	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0880	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0880	$627.80
88 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0880	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0890	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0890	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0890	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0890	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0890	$627.80
89 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0890	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0900	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0900	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0900	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0900	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0900	$627.80
90 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0900	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0910	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0910	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0910	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0910	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0910	$627.80
91 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0910	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0920	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0920	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0920	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0920	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0920	$627.80
92 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0920	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0930	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0930	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0930	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0930	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0930	$627.80
93 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0930	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0940	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0940	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0940	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0940	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0940	$627.80
94 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0940	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0950	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0950	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0950	$627.80

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
95 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0950	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0950	$627.80
95 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0950	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0960	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0960	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0960	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0960	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0960	$627.80
96 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0960	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0970	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0970	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0970	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0970	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0970	$627.80
97 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0970	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0980	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0980	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0980	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0980	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0980	$627.80
98 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0980	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.3650	310 Watt Exterior Canopy or Soffit HPS Fixture	0.0990	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.3420	320 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0990	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.4570	400 Watt Exterior Canopy or Soffit HPS Fixture	0.0990	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.4540	400 Watt Exterior Canopy or Soffit MV Fixture	0.0990	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.4250	400 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0990	$627.80
99 Watt Exterior Canopy or Soffit LED Fixture	0.4800	450 Watt Exterior Canopy or Soffit PSMH Fixture with ES Mag Ballast	0.0990	$627.80
(2) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2080	175W Metal Halide, magnetic ballast	0.1170	$192.88
(2) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.1890	175W Pulse Start Metal Halide, energy saving magnetic ballast	0.1170	$192.88
(2) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2180	200W Pulse Start Metal Halide, energy saving magnetic ballast	0.1170	$192.88
(2) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2320	200W Pulse Start Metal Halide, magnetic ballast	0.1170	$192.88
(2) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2720	250W Pulse Start Metal Halide, energy saving magnetic ballast	0.1170	$192.88
(2) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2900	250W Pulse Start Metal Halide, magnetic ballast	0.1170	$192.88
(3) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2080	175W Metal Halide, magnetic ballast	0.1790	$222.00
(3) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.1890	175W Pulse Start Metal Halide, energy saving magnetic ballast	0.1790	$222.00
(3) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2180	200W Pulse Start Metal Halide, energy saving magnetic ballast	0.1790	$222.00
(3) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2320	200W Pulse Start Metal Halide, magnetic ballast	0.1790	$222.00
(3) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2720	250W Pulse Start Metal Halide, energy saving magnetic ballast	0.1790	$222.00
(3) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.2900	250W Pulse Start Metal Halide, magnetic ballast	0.1790	$222.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2080	175W Metal Halide, magnetic ballast	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.1890	175W Pulse Start Metal Halide, energy saving magnetic ballast	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2180	200W Pulse Start Metal Halide, energy saving magnetic ballast	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2320	200W Pulse Start Metal Halide, magnetic ballast	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2720	250W Pulse Start Metal Halide, energy saving magnetic ballast	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2900	250W Pulse Start Metal Halide, magnetic ballast	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2950	High Pressure Sodium, 250W lamp	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2050	Mercury Vapor, (1) 175W lamp	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2850	Mercury Vapor, 250W lamp	0.1540	$153.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2100	Metal Halide, (1) 175W lamp	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2950	Metal Halide, (1) 250W lamp	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.2720	Pulse Start Metal Halide, 250W lamp	0.1540	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2080	175W Metal Halide, magnetic ballast	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.1890	175W Pulse Start Metal Halide, energy saving magnetic ballast	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2180	200W Pulse Start Metal Halide, energy saving magnetic ballast	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2320	200W Pulse Start Metal Halide, magnetic ballast	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2720	250W Pulse Start Metal Halide, energy saving magnetic ballast	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2900	250W Pulse Start Metal Halide, magnetic ballast	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2950	High Pressure Sodium, 250W lamp	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2050	Mercury Vapor, (1) 175W lamp	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2850	Mercury Vapor, 250W lamp	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2100	Metal Halide, (1) 175W lamp	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2950	Metal Halide, (1) 250W lamp	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.2720	Pulse Start Metal Halide, 250W lamp	0.0998	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2080	175W Metal Halide, magnetic ballast	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.1890	175W Pulse Start Metal Halide, energy saving magnetic ballast	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2180	200W Pulse Start Metal Halide, energy saving magnetic ballast	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2320	200W Pulse Start Metal Halide, magnetic ballast	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2720	250W Pulse Start Metal Halide, energy saving magnetic ballast	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2900	250W Pulse Start Metal Halide, magnetic ballast	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2950	High Pressure Sodium, 250W lamp	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2050	Mercury Vapor, (1) 175W lamp	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2850	Mercury Vapor, 250W lamp	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2100	Metal Halide, (1) 175W lamp	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2950	Metal Halide, (1) 250W lamp	0.1126	$153.00
(4) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2720	Pulse Start Metal Halide, 250W lamp	0.1126	$153.00
(18) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	1.1000	High Pressure Sodium, 1000W lamp	0.6624	$534.00
(18) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	1.0800	Mercury Vapor, 1000W lamp	0.6624	$534.00
(18) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	1.0800	Metal Halide, (1) 1000W lamp	0.6624	$534.00
(18) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	1.0800	Pulse Start Metal Halide, (1) 1000W lamp	0.6624	$534.00
(18) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	1.1000	High Pressure Sodium, 1000W lamp	0.4493	$534.00
(18) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	1.0800	Mercury Vapor, 1000W lamp	0.4493	$534.00
(18) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	1.0800	Metal Halide, (1) 1000W lamp	0.4493	$534.00
(18) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	1.0800	Pulse Start Metal Halide, (1) 1000W lamp	0.4493	$534.00
(20) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	1.1000	High Pressure Sodium, 1000W lamp	0.7360	$407.31
(20) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	1.0800	Mercury Vapor, 1000W lamp	0.7360	$407.31
(20) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	1.0800	Metal Halide, (1) 1000W lamp	0.7360	$407.31
(20) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	1.0800	Pulse Start Metal Halide, (1) 1000W lamp	0.7360	$407.31
(20) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	1.1000	High Pressure Sodium, 1000W lamp	0.4992	$334.00
(20) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	1.0800	Mercury Vapor, 1000W lamp	0.4992	$334.00
(20) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	1.0800	Metal Halide, (1) 1000W lamp	0.4992	$334.00
(20) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	1.0800	Pulse Start Metal Halide, (1) 1000W lamp	0.4992	$334.00
(4) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.2340	$293.00
(4) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.2340	$293.00
(4) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.2340	$293.00
(4) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.2340	$293.00
(4) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.2340	$293.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(4) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.2340	$293.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3650	High Pressure Sodium, 310W lamp	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4570	High Pressure Sodium, 400W lamp	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4540	Mercury Vapor, 400W lamp	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4540	Metal Halide, (1) 400W lamp	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3420	Pulse Start Metal Halide, 320W lamp	0.2950	$265.00
(5) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3750	Pulse Start Metal Halide, 350W lamp	0.2950	$265.00
(6) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.2208	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.2208	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.2208	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.2208	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.2208	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.2208	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3650	High Pressure Sodium, 310W lamp	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4570	High Pressure Sodium, 400W lamp	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4540	Mercury Vapor, 400W lamp	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4540	Metal Halide, (1) 400W lamp	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3420	Pulse Start Metal Halide, 320W lamp	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3750	Pulse Start Metal Halide, 350W lamp	0.1498	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3650	High Pressure Sodium, 310W lamp	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4570	High Pressure Sodium, 400W lamp	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4540	Mercury Vapor, 400W lamp	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4540	Metal Halide, (1) 400W lamp	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3420	Pulse Start Metal Halide, 320W lamp	0.1690	$260.00
(6) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3750	Pulse Start Metal Halide, 350W lamp	0.1690	$260.00
(6) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.3580	$293.00
(6) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.3580	$293.00
(6) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.3580	$293.00
(6) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.3580	$293.00
(6) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.3580	$293.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(6) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.3580	$293.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3650	High Pressure Sodium, 310W lamp	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4570	High Pressure Sodium, 400W lamp	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4540	Mercury Vapor, 400W lamp	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.4540	Metal Halide, (1) 400W lamp	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3420	Pulse Start Metal Halide, 320W lamp	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.3750	Pulse Start Metal Halide, 350W lamp	0.2944	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3650	High Pressure Sodium, 310W lamp	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4570	High Pressure Sodium, 400W lamp	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4540	Mercury Vapor, 400W lamp	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.4540	Metal Halide, (1) 400W lamp	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3420	Pulse Start Metal Halide, 320W lamp	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.3750	Pulse Start Metal Halide, 350W lamp	0.1997	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3420	320W Pulse Start Metal Halide, energy saving magnetic ballast	0.2253	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3700	320W Pulse Start Metal Halide, magnetic ballast	0.2253	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3750	350W Pulse Start Metal Halide, energy saving magnetic ballast	0.2253	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4100	350W Pulse Start Metal Halide, magnetic ballast	0.2253	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4250	400W Pulse Start Metal Halide, energy saving magnetic ballast	0.2253	$265.00
(8) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4650	400W Pulse Start Metal Halide, magnetic ballast	0.2253	$265.00
(12) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts,, high bay	0.8400	High Pressure Sodium, 750W lamp	0.4416	$398.00
(12) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts,, high bay	0.8500	Metal Halide, (1) 750W lamp	0.4416	$398.00
(12) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts,, high bay	0.8120	Pulse Start Metal Halide, 750W lamp	0.4416	$398.00
(12) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts,, high bay	0.8400	High Pressure Sodium, 750W lamp	0.2995	$398.00
(12) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts,, high bay	0.8500	Metal Halide, (1) 750W lamp	0.2995	$398.00
(12) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts,, high bay	0.8120	Pulse Start Metal Halide, 750W lamp	0.2995	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.8400	High Pressure Sodium, 750W lamp	0.5152	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.8500	Metal Halide, (1) 750W lamp	0.5152	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.8120	Pulse Start Metal Halide, 750W lamp	0.5152	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts,, high bay	0.8400	High Pressure Sodium, 750W lamp	0.3494	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts,, high bay	0.8500	Metal Halide, (1) 750W lamp	0.3494	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts,, high bay	0.8120	Pulse Start Metal Halide, 750W lamp	0.3494	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts,, high bay	0.8400	High Pressure Sodium, 750W lamp	0.3942	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts,, high bay	0.8500	Metal Halide, (1) 750W lamp	0.3942	$398.00
(14) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballasts,, high bay	0.8120	Pulse Start Metal Halide, 750W lamp	0.3942	$398.00
(16) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.8400	High Pressure Sodium, 750W lamp	0.5888	$530.00
(16) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.8500	Metal Halide, (1) 750W lamp	0.5888	$530.00

Table 4: Deemed Fixture Table - Retrofit

Post-retrofit Fixture	kW_EE	Pre-retrofit fixture	kW_Base	Full Cost
(16) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballasts, high bay	0.8120	Pulse Start Metal Halide, 750W lamp	0.5888	$530.00
(16) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.8400	High Pressure Sodium, 750W lamp	0.3994	$530.00
(16) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.8500	Metal Halide, (1) 750W lamp	0.3994	$530.00
(16) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballasts, high bay	0.8120	Pulse Start Metal Halide, 750W lamp	0.3994	$530.00
(3) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1040	(3) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.0950	$67.50
(3) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1270	(3) F40T12 48" 34W Lamp, magnetic ballast	0.0950	$67.50
(3) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1070	(3) T12 40W Lamp with Electronic Ballast	0.0950	$67.50
(3) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1410	(3) T12 40W Lamp with ES Magnetic Ballast	0.0950	$67.50
(3) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1350	(3) T12 40W Lamp with Magnetic Ballast	0.0950	$67.50
(3) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.2000	200 Watt Incandescent Lamp	0.0950	$67.50
(3) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1500	Incandescent, 1-A 150W, no ballast	0.0950	$67.50
(4) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1440	(4) F40T12 48" 34W Lamp, energy saving magnetic ballast	0.1260	$70.00
(4) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1560	(4) F40T12 48" 34W Lamp, magnetic ballast	0.1260	$70.00
(4) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1340	(4) T12 40W Lamp with Electronic Ballast	0.1260	$70.00
(4) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1720	(4) T12 40W Lamp with ES Magnetic Ballast	0.1260	$70.00
(4) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1750	(4) T12 40W Lamp with Magnetic Ballast	0.1260	$70.00
(4) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.2000	200 Watt Incandescent Lamp	0.1260	$70.00
(4) F28T5 Lamp with a -1.0 ballast factor electronic ballast	0.1500	Incandescent, 1-A 150W, no ballast	0.1260	$70.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
(10) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.5850	Metal Halide, (1) 1000W lamp	1.0800	$110.00
(12) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts,, high bay	0.3360	Metal Halide, (1) 750W lamp	0.8500	$127.50
(16) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4480	Metal Halide, (1) 750W lamp	0.8500	$170.00
(18) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.6800	Metal Halide, (1) 1000W lamp	1.0800	$174.00
(20) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.7550	Metal Halide, (1) 1000W lamp	1.0800	$178.00
(4) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.2340	Metal Halide, (1) 400W lamp	0.4580	$110.00
(6) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.1860	Metal Halide, (1) 400W lamp	0.4580	$85.00
(6) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.3580	Metal Halide, (1) 400W lamp	0.4580	$110.00
(6) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.5550	Metal Halide, (1) 750W lamp	0.8500	$28.00
(8) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2240	Metal Halide, (1) 400W lamp	0.4580	$90.00
(8) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.4680	Metal Halide, (1) 750W lamp	0.8500	$110.00
(8) Fluorescent, 48" T-8 lamps, VHLO Ballasts	0.7930	Metal Halide, (1) 1000W lamp	1.0800	$26.00
750W Pulse Start Metal Halide, magnetic ballast	0.8140	1000W Metal Halide, magnetic ballast	1.0770	$30
Ceramic Metal Halide, 1-PAR 39W, electronic ballast	0.0450	Incandescent, 1-R 120W	0.1200	$136
Ceramic Metal Halide, 1-SE 150W, electronic ballast	0.1680	Incandescent, 1-PS40 500W	0.5000	$152
Ceramic Metal Halide, 1-SE 20W, electronic ballast	0.0250	Incandescent, 1-R 75W	0.0750	$57
Ceramic Metal Halide, 1-SE 70W, electronic ballast	0.0700	Incandescent, 1-R 400W	0.4000	$136
F32T8 25W Lamp on a standard efficiency, normal ballast factor ballast	0.0213	F32T8 32W Lamp on a standard efficiency, normal ballast factor ballast	0.0272	$2.00
F32T8 28W Lamp on standard efficiency, normal ballast factor ballast	0.0238	F32T8 32W Lamp on a standard efficiency, normal ballast factor ballast	0.0272	$2.00
1 Watt Screw In CFL Integral Ballast	0.0010	4 Watts Incandescent Lamp	0.0040	$2.00
2 Watt Screw In CFL Integral Ballast	0.0020	10 Watts Incandescent Lamp	0.0100	$2.00
3 Watt Screw In CFL Integral Ballast	0.0030	15 Watts Incandescent Lamp	0.0150	$2.00
4 Watt Screw In CFL Integral Ballast	0.0040	15 Watts Incandescent Lamp	0.0150	$2.00
5 Watt Screw In CFL Integral Ballast	0.0050	20 Watts Incandescent Lamp	0.0200	$2.00
6 Watt Screw In CFL Integral Ballast	0.0060	25 Watts Incandescent Lamp	0.0250	$2.00
7 Watt Screw In CFL Integral Ballast	0.0070	30 Watts Incandescent Lamp	0.0300	$2.00
8 Watt Screw In CFL Integral Ballast	0.0080	35 Watts Incandescent Lamp	0.0350	$2.00
9 Watt Screw In CFL Integral Ballast	0.0090	40 Watts Incandescent Lamp	0.0400	$2.00
10 Watt Screw In CFL Integral Ballast	0.0100	40 Watts Incandescent Lamp	0.0400	$2.00
11 Watt Screw In CFL Integral Ballast	0.0110	55 Watts Incandescent Lamp	0.0550	$2.00
12 Watt Screw In CFL Integral Ballast	0.0120	60 Watts Incandescent Lamp	0.0600	$2.00
13 Watt Screw In CFL Integral Ballast	0.0130	60 Watts Incandescent Lamp	0.0600	$2.00
14 Watt Screw In CFL Integral Ballast	0.0140	65 Watts Incandescent Lamp	0.0650	$2.00
15 Watt Screw In CFL Integral Ballast	0.0150	65 Watts Incandescent Lamp	0.0650	$2.00
16 Watt Screw In CFL Integral Ballast	0.0160	70 Watts Incandescent Lamp	0.0700	$2.00
17 Watt Screw In CFL Integral Ballast	0.0170	70 Watts Incandescent Lamp	0.0700	$2.00
18 Watt Screw In CFL Integral Ballast	0.0180	75 Watts Incandescent Lamp	0.0750	$2.00
19 Watt Screw In CFL Integral Ballast	0.0190	80 Watts Incandescent Lamp	0.0800	$2.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
20 Watt Screw In CFL Integral Ballast	0.0200	80 Watts Incandescent Lamp	0.0800	$2.00
21 Watt Screw In CFL Integral Ballast	0.0210	85 Watts Incandescent Lamp	0.0850	$2.00
22 Watt Screw In CFL Integral Ballast	0.0220	90 Watts Incandescent Lamp	0.0900	$2.00
23 Watt Screw In CFL Integral Ballast	0.0230	95 Watts Incandescent Lamp	0.0950	$2.00
24 Watt Screw In CFL Integral Ballast	0.0240	100 Watts Incandescent Lamp	0.1000	$2.00
25 Watt Screw In CFL Integral Ballast	0.0250	105 Watts Incandescent Lamp	0.1050	$2.00
26 Watt Screw In CFL Integral Ballast	0.0260	110 Watts Incandescent Lamp	0.1100	$2.00
27 Watt Screw In CFL Integral Ballast	0.0270	115 Watts Incandescent Lamp	0.1150	$2.00
28 Watt Screw In CFL Integral Ballast	0.0280	120 Watts Incandescent Lamp	0.1200	$4.31
29 Watt Screw In CFL Integral Ballast	0.0290	125 Watts Incandescent Lamp	0.1250	$4.31
30 Watt Screw In CFL Integral Ballast	0.0300	130 Watts Incandescent Lamp	0.1300	$4.31
31 Watt Screw In CFL Integral Ballast	0.0310	135 Watts Incandescent Lamp	0.1350	$4.31
32 Watt Screw In CFL Integral Ballast	0.0320	140 Watts Incandescent Lamp	0.1400	$4.31
33 Watt Screw In CFL Integral Ballast	0.0330	145 Watts Incandescent Lamp	0.1450	$4.31
34 Watt Screw In CFL Integral Ballast	0.0340	150 Watts Incandescent Lamp	0.1500	$4.31
35 Watt Screw In CFL Integral Ballast	0.0350	155 Watts Incandescent Lamp	0.1550	$4.31
36 Watt Screw In CFL Integral Ballast	0.0360	160 Watts Incandescent Lamp	0.1600	$4.31
37 Watt Screw In CFL Integral Ballast	0.0370	165 Watts Incandescent Lamp	0.1650	$4.31
38 Watt Screw In CFL Integral Ballast	0.0380	170 Watts Incandescent Lamp	0.1700	$4.31
39 Watt Screw In CFL Integral Ballast	0.0390	175 Watts Incandescent Lamp	0.1750	$4.31
40 Watt Screw In CFL Integral Ballast	0.0400	180 Watts Incandescent Lamp	0.1800	$4.31
41 Watt Screw In CFL Integral Ballast	0.0410	185 Watts Incandescent Lamp	0.1850	$4.31
42 Watt Screw In CFL Integral Ballast	0.0420	190 Watts Incandescent Lamp	0.1900	$4.31
43 Watt Screw In CFL Integral Ballast	0.0430	195 Watts Incandescent Lamp	0.1950	$4.31
44 Watt Screw In CFL Integral Ballast	0.0440	200 Watts Incandescent Lamp	0.2000	$4.31
45 Watt Screw In CFL Integral Ballast	0.0450	250 Watts Incandescent Lamp	0.2500	$4.31
47 Watt Screw In CFL Integral Ballast	0.0470	250 Watts Incandescent Lamp	0.2500	$4.31
48 Watt Screw In CFL Integral Ballast	0.0480	250 Watts Incandescent Lamp	0.2500	$4.31
49 Watt Screw In CFL Integral Ballast	0.0490	250 Watts Incandescent Lamp	0.2500	$13.00
50 Watt Screw In CFL Integral Ballast	0.0500	250 Watts Incandescent Lamp	0.2500	$13.00
51 Watt Screw In CFL Integral Ballast	0.0510	250 Watts Incandescent Lamp	0.2500	$13.00
52 Watt Screw In CFL Integral Ballast	0.0520	250 Watts Incandescent Lamp	0.2500	$13.00
53 Watt Screw In CFL Integral Ballast	0.0530	250 Watts Incandescent Lamp	0.2500	$13.00
54 Watt Screw In CFL Integral Ballast	0.0540	250 Watts Incandescent Lamp	0.2500	$13.00
55 Watt Screw In CFL Integral Ballast	0.0550	300 Watts Incandescent Lamp	0.3000	$13.00
56 Watt Screw In CFL Integral Ballast	0.0560	300 Watts Incandescent Lamp	0.3000	$13.00
57 Watt Screw In CFL Integral Ballast	0.0570	300 Watts Incandescent Lamp	0.3000	$13.00
58 Watt Screw In CFL Integral Ballast	0.0580	300 Watts Incandescent Lamp	0.3000	$13.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
59 Watt Screw In CFL Integral Ballast	0.0590	300 Watts Incandescent Lamp	0.3000	$13.00
61 Watt Screw In CFL Integral Ballast	0.0610	300 Watts Incandescent Lamp	0.3000	$13.00
62 Watt Screw In CFL Integral Ballast	0.0620	300 Watts Incandescent Lamp	0.3000	$13.00
63 Watt Screw In CFL Integral Ballast	0.0630	300 Watts Incandescent Lamp	0.3000	$13.00
64 Watt Screw In CFL Integral Ballast	0.0640	350 Watts Incandescent Lamp	0.3500	$13.00
65 Watt Screw In CFL Integral Ballast	0.0650	350 Watts Incandescent Lamp	0.3500	$13.00
66 Watt Screw In CFL Integral Ballast	0.0660	350 Watts Incandescent Lamp	0.3500	$13.00
67 Watt Screw In CFL Integral Ballast	0.0670	350 Watts Incandescent Lamp	0.3500	$13.00
68 Watt Screw In CFL Integral Ballast	0.0680	350 Watts Incandescent Lamp	0.3500	$13.00
69 Watt Screw In CFL Integral Ballast	0.0690	350 Watts Incandescent Lamp	0.3500	$13.00
70 Watt Screw In CFL Integral Ballast	0.0700	350 Watts Incandescent Lamp	0.3500	$13.00
71 Watt Screw In CFL Integral Ballast	0.0710	350 Watts Incandescent Lamp	0.3500	$13.00
72 Watt Screw In CFL Integral Ballast	0.0720	350 Watts Incandescent Lamp	0.3500	$13.00
73 Watt Screw In CFL Integral Ballast	0.0730	350 Watts Incandescent Lamp	0.3500	$13.00
74 Watt Screw In CFL Integral Ballast	0.0740	350 Watts Incandescent Lamp	0.3500	$13.00
75 Watt Screw In CFL Integral Ballast	0.0750	400 Watts Incandescent Lamp	0.4000	$13.00
77 Watt Screw In CFL Integral Ballast	0.0770	400 Watts Incandescent Lamp	0.4000	$13.00
79 Watt Screw In CFL Integral Ballast	0.0790	400 Watts Incandescent Lamp	0.4000	$13.00
81 Watt Screw In CFL Integral Ballast	0.0810	400 Watts Incandescent Lamp	0.4000	$13.00
83 Watt Screw In CFL Integral Ballast	0.0830	500 Watts Incandescent Lamp	0.5000	$13.00
85 Watt Screw In CFL Integral Ballast	0.0850	500 Watts Incandescent Lamp	0.5000	$13.00
87 Watt Screw In CFL Integral Ballast	0.0870	500 Watts Incandescent Lamp	0.5000	$13.00
89 Watt Screw In CFL Integral Ballast	0.0890	500 Watts Incandescent Lamp	0.5000	$13.00
91 Watt Screw In CFL Integral Ballast	0.0910	500 Watts Incandescent Lamp	0.5000	$13.00
93 Watt Screw In CFL Integral Ballast	0.0930	500 Watts Incandescent Lamp	0.5000	$13.00
95 Watt Screw In CFL Integral Ballast	0.0950	500 Watts Incandescent Lamp	0.5000	$13.00
97 Watt Screw In CFL Integral Ballast	0.0970	500 Watts Incandescent Lamp	0.5000	$13.00
98 Watt Screw In CFL Integral Ballast	0.0980	500 Watts Incandescent Lamp	0.5000	$13.00
99 Watt Screw In CFL Integral Ballast	0.0990	500 Watts Incandescent Lamp	0.5000	$13.00
100 Watt Screw In CFL Integral Ballast	0.1000	500 Watts Incandescent Lamp	0.5000	$13.00
1 Watt Pin Based CFL Magnetic Ballast	0.0013	4 Watts Incandescent Lamp	0.0040	$20.00
2 Watt Pin Based CFL Magnetic Ballast	0.0026	10 Watts Incandescent Lamp	0.0100	$20.00
2 Watt Pin Based CFL Magnetic Ballast	0.0026	15 Watts Incandescent Lamp	0.0150	$20.00
3 Watt Pin Based CFL Magnetic Ballast	0.0039	10 Watts Incandescent Lamp	0.0100	$20.00
4 Watt Pin Based CFL Magnetic Ballast	0.0052	15 Watts Incandescent Lamp	0.0150	$20.00
5 Watt Pin Based CFL Magnetic Ballast	0.0065	20 Watts Incandescent Lamp	0.0200	$20.00
6 Watt Pin Based CFL Magnetic Ballast	0.0078	25 Watts Incandescent Lamp	0.0250	$20.00
7 Watt Pin Based CFL Magnetic Ballast	0.0091	30 Watts Incandescent Lamp	0.0300	$20.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
8 Watt Pin Based CFL Magnetic Ballast	0.0104	35 Watts Incandescent Lamp	0.0350	$20.00
9 Watt Pin Based CFL Magnetic Ballast	0.0118	40 Watts Incandescent Lamp	0.0400	$20.00
10 Watt Pin Based CFL Magnetic Ballast	0.0131	45 Watts Incandescent Lamp	0.0450	$40.00
11 Watt Pin Based CFL Magnetic Ballast	0.0144	50 Watts Incandescent Lamp	0.0500	$40.00
12 Watt Pin Based CFL Magnetic Ballast	0.0157	55 Watts Incandescent Lamp	0.0550	$40.00
13 Watt Pin Based CFL Magnetic Ballast	0.0170	60 Watts Incandescent Lamp	0.0600	$40.00
14 Watt Pin Based CFL Magnetic Ballast	0.0183	65 Watts Incandescent Lamp	0.0650	$40.00
15 Watt Pin Based CFL Magnetic Ballast	0.0196	70 Watts Incandescent Lamp	0.0700	$40.00
16 Watt Pin Based CFL Magnetic Ballast	0.0209	75 Watts Incandescent Lamp	0.0750	$40.00
17 Watt Pin Based CFL Magnetic Ballast	0.0222	80 Watts Incandescent Lamp	0.0800	$40.00
18 Watt Pin Based CFL Magnetic Ballast	0.0235	85 Watts Incandescent Lamp	0.0850	$40.00
19 Watt Pin Based CFL Magnetic Ballast	0.0248	90 Watts Incandescent Lamp	0.0900	$40.00
20 Watt Pin Based CFL Magnetic Ballast	0.0261	95 Watts Incandescent Lamp	0.0950	$40.00
21 Watt Pin Based CFL Magnetic Ballast	0.0274	100 Watts Incandescent Lamp	0.1000	$40.00
22 Watt Pin Based CFL Magnetic Ballast	0.0287	105 Watts Incandescent Lamp	0.1050	$40.00
23 Watt Pin Based CFL Magnetic Ballast	0.0300	110 Watts Incandescent Lamp	0.1100	$40.00
24 Watt Pin Based CFL Magnetic Ballast	0.0313	115 Watts Incandescent Lamp	0.1150	$40.00
25 Watt Pin Based CFL Magnetic Ballast	0.0327	120 Watts Incandescent Lamp	0.1200	$40.00
26 Watt Pin Based CFL Magnetic Ballast	0.0340	125 Watts Incandescent Lamp	0.1250	$40.00
27 Watt Pin Based CFL Magnetic Ballast	0.0353	130 Watts Incandescent Lamp	0.1300	$40.00
28 Watt Pin Based CFL Magnetic Ballast	0.0366	130 Watts Incandescent Lamp	0.1300	$40.00
29 Watt Pin Based CFL Magnetic Ballast	0.0379	135 Watts Incandescent Lamp	0.1350	$40.00
30 Watt Pin Based CFL Magnetic Ballast	0.0392	140 Watts Incandescent Lamp	0.1400	$40.00
31 Watt Pin Based CFL Magnetic Ballast	0.0405	145 Watts Incandescent Lamp	0.1450	$40.00
32 Watt Pin Based CFL Magnetic Ballast	0.0418	150 Watts Incandescent Lamp	0.1500	$40.00
33 Watt Pin Based CFL Magnetic Ballast	0.0431	155 Watts Incandescent Lamp	0.1550	$40.00
34 Watt Pin Based CFL Magnetic Ballast	0.0444	160 Watts Incandescent Lamp	0.1600	$40.00
35 Watt Pin Based CFL Magnetic Ballast	0.0457	165 Watts Incandescent Lamp	0.1650	$40.00
36 Watt Pin Based CFL Magnetic Ballast	0.0470	170 Watts Incandescent Lamp	0.1700	$40.00
37 Watt Pin Based CFL Magnetic Ballast	0.0483	175 Watts Incandescent Lamp	0.1750	$50.00
38 Watt Pin Based CFL Magnetic Ballast	0.0496	180 Watts Incandescent Lamp	0.1800	$50.00
39 Watt Pin Based CFL Magnetic Ballast	0.0509	185 Watts Incandescent Lamp	0.1850	$50.00
40 Watt Pin Based CFL Magnetic Ballast	0.0522	190 Watts Incandescent Lamp	0.1900	$50.00
41 Watt Pin Based CFL Magnetic Ballast	0.0535	195 Watts Incandescent Lamp	0.1950	$50.00
42 Watt Pin Based CFL Magnetic Ballast	0.0549	200 Watts Incandescent Lamp	0.2000	$50.00
43 Watt Pin Based CFL Magnetic Ballast	0.0562	250 Watts Incandescent Lamp	0.2500	$50.00
44 Watt Pin Based CFL Magnetic Ballast	0.0575	250 Watts Incandescent Lamp	0.2500	$50.00
45 Watt Pin Based CFL Magnetic Ballast	0.0588	250 Watts Incandescent Lamp	0.2500	$50.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
46 Watt Pin Based CFL Magnetic Ballast	0.0601	250 Watts Incandescent Lamp	0.2500	$50.00
47 Watt Pin Based CFL Magnetic Ballast	0.0614	250 Watts Incandescent Lamp	0.2500	$50.00
48 Watt Pin Based CFL Magnetic Ballast	0.0627	250 Watts Incandescent Lamp	0.2500	$50.00
49 Watt Pin Based CFL Magnetic Ballast	0.0640	250 Watts Incandescent Lamp	0.2500	$50.00
50 Watt Pin Based CFL Magnetic Ballast	0.0653	250 Watts Incandescent Lamp	0.2500	$50.00
51 Watt Pin Based CFL Magnetic Ballast	0.0666	250 Watts Incandescent Lamp	0.2500	$50.00
52 Watt Pin Based CFL Magnetic Ballast	0.0679	250 Watts Incandescent Lamp	0.2500	$50.00
53 Watt Pin Based CFL Magnetic Ballast	0.0692	250 Watts Incandescent Lamp	0.2500	$50.00
54 Watt Pin Based CFL Magnetic Ballast	0.0705	250 Watts Incandescent Lamp	0.2500	$50.00
55 Watt Pin Based CFL Magnetic Ballast	0.0718	250 Watts Incandescent Lamp	0.2500	$50.00
56 Watt Pin Based CFL Magnetic Ballast	0.0731	300 Watts Incandescent Lamp	0.3000	$50.00
57 Watt Pin Based CFL Magnetic Ballast	0.0744	300 Watts Incandescent Lamp	0.3000	$50.00
58 Watt Pin Based CFL Magnetic Ballast	0.0757	300 Watts Incandescent Lamp	0.3000	$50.00
59 Watt Pin Based CFL Magnetic Ballast	0.0771	300 Watts Incandescent Lamp	0.3000	$50.00
60 Watt Pin Based CFL Magnetic Ballast	0.0784	300 Watts Incandescent Lamp	0.3000	$50.00
61 Watt Pin Based CFL Magnetic Ballast	0.0797	300 Watts Incandescent Lamp	0.3000	$50.00
62 Watt Pin Based CFL Magnetic Ballast	0.0810	300 Watts Incandescent Lamp	0.3000	$50.00
63 Watt Pin Based CFL Magnetic Ballast	0.0823	300 Watts Incandescent Lamp	0.3000	$50.00
64 Watt Pin Based CFL Magnetic Ballast	0.0836	350 Watts Incandescent Lamp	0.3500	$50.00
65 Watt Pin Based CFL Magnetic Ballast	0.0849	350 Watts Incandescent Lamp	0.3500	$50.00
66 Watt Pin Based CFL Magnetic Ballast	0.0862	350 Watts Incandescent Lamp	0.3500	$50.00
67 Watt Pin Based CFL Magnetic Ballast	0.0875	350 Watts Incandescent Lamp	0.3500	$50.00
68 Watt Pin Based CFL Magnetic Ballast	0.0888	350 Watts Incandescent Lamp	0.3500	$50.00
69 Watt Pin Based CFL Magnetic Ballast	0.0901	350 Watts Incandescent Lamp	0.3500	$50.00
70 Watt Pin Based CFL Magnetic Ballast	0.0914	350 Watts Incandescent Lamp	0.3500	$50.00
71 Watt Pin Based CFL Magnetic Ballast	0.0927	350 Watts Incandescent Lamp	0.3500	$50.00
72 Watt Pin Based CFL Magnetic Ballast	0.0940	350 Watts Incandescent Lamp	0.3500	$50.00
73 Watt Pin Based CFL Magnetic Ballast	0.0953	400 Watts Incandescent Lamp	0.4000	$50.00
74 Watt Pin Based CFL Magnetic Ballast	0.0966	400 Watts Incandescent Lamp	0.4000	$50.00
75 Watt Pin Based CFL Magnetic Ballast	0.0980	400 Watts Incandescent Lamp	0.4000	$50.00
76 Watt Pin Based CFL Magnetic Ballast	0.0993	400 Watts Incandescent Lamp	0.4000	$50.00
77 Watt Pin Based CFL Magnetic Ballast	0.1006	400 Watts Incandescent Lamp	0.4000	$50.00
78 Watt Pin Based CFL Magnetic Ballast	0.1019	400 Watts Incandescent Lamp	0.4000	$50.00
79 Watt Pin Based CFL Magnetic Ballast	0.1032	400 Watts Incandescent Lamp	0.4000	$50.00
80 Watt Pin Based CFL Magnetic Ballast	0.1045	500 Watts Incandescent Lamp	0.5000	$50.00
81 Watt Pin Based CFL Magnetic Ballast	0.1058	500 Watts Incandescent Lamp	0.5000	$50.00
82 Watt Pin Based CFL Magnetic Ballast	0.1071	500 Watts Incandescent Lamp	0.5000	$50.00
83 Watt Pin Based CFL Magnetic Ballast	0.1084	500 Watts Incandescent Lamp	0.5000	$50.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
84 Watt Pin Based CFL Magnetic Ballast	0.1097	500 Watts Incandescent Lamp	0.5000	$50.00
85 Watt Pin Based CFL Magnetic Ballast	0.1110	500 Watts Incandescent Lamp	0.5000	$50.00
86 Watt Pin Based CFL Magnetic Ballast	0.1123	500 Watts Incandescent Lamp	0.5000	$50.00
87 Watt Pin Based CFL Magnetic Ballast	0.1136	500 Watts Incandescent Lamp	0.5000	$50.00
88 Watt Pin Based CFL Magnetic Ballast	0.1149	500 Watts Incandescent Lamp	0.5000	$50.00
89 Watt Pin Based CFL Magnetic Ballast	0.1162	500 Watts Incandescent Lamp	0.5000	$50.00
90 Watt Pin Based CFL Magnetic Ballast	0.1175	500 Watts Incandescent Lamp	0.5000	$50.00
91 Watt Pin Based CFL Magnetic Ballast	0.1188	500 Watts Incandescent Lamp	0.5000	$50.00
92 Watt Pin Based CFL Magnetic Ballast	0.1202	500 Watts Incandescent Lamp	0.5000	$50.00
93 Watt Pin Based CFL Magnetic Ballast	0.1215	500 Watts Incandescent Lamp	0.5000	$50.00
94 Watt Pin Based CFL Magnetic Ballast	0.1228	500 Watts Incandescent Lamp	0.5000	$50.00
95 Watt Pin Based CFL Magnetic Ballast	0.1241	500 Watts Incandescent Lamp	0.5000	$50.00
96 Watt Pin Based CFL Magnetic Ballast	0.1254	500 Watts Incandescent Lamp	0.5000	$50.00
97 Watt Pin Based CFL Magnetic Ballast	0.1267	500 Watts Incandescent Lamp	0.5000	$50.00
98 Watt Pin Based CFL Magnetic Ballast	0.1280	500 Watts Incandescent Lamp	0.5000	$50.00
99 Watt Pin Based CFL Magnetic Ballast	0.1293	500 Watts Incandescent Lamp	0.5000	$50.00
100 Watt Pin Based CFL Magnetic Ballast	0.1306	500 Watts Incandescent Lamp	0.5000	$50.00
1 Watt Pin Based CFL Electronic Ballast	0.0011	4 Watts Incandescent Lamp	0.0040	$20.00
2 Watt Pin Based CFL Electronic Ballast	0.0021	10 Watts Incandescent Lamp	0.0100	$20.00
3 Watt Pin Based CFL Electronic Ballast	0.0032	15 Watts Incandescent Lamp	0.0150	$20.00
4 Watt Pin Based CFL Electronic Ballast	0.0042	20 Watts Incandescent Lamp	0.0200	$20.00
5 Watt Pin Based CFL Electronic Ballast	0.0053	25 Watts Incandescent Lamp	0.0250	$20.00
6 Watt Pin Based CFL Electronic Ballast	0.0063	30 Watts Incandescent Lamp	0.0300	$20.00
7 Watt Pin Based CFL Electronic Ballast	0.0074	35 Watts Incandescent Lamp	0.0350	$20.00
8 Watt Pin Based CFL Electronic Ballast	0.0085	40 Watts Incandescent Lamp	0.0400	$20.00
9 Watt Pin Based CFL Electronic Ballast	0.0095	45 Watts Incandescent Lamp	0.0450	$20.00
10 Watt Pin Based CFL Electronic Ballast	0.0106	50 Watts Incandescent Lamp	0.0500	$40.00
11 Watt Pin Based CFL Electronic Ballast	0.0116	55 Watts Incandescent Lamp	0.0550	$40.00
12 Watt Pin Based CFL Electronic Ballast	0.0127	60 Watts Incandescent Lamp	0.0600	$40.00
13 Watt Pin Based CFL Electronic Ballast	0.0138	65 Watts Incandescent Lamp	0.0650	$40.00
14 Watt Pin Based CFL Electronic Ballast	0.0148	70 Watts Incandescent Lamp	0.0700	$40.00
15 Watt Pin Based CFL Electronic Ballast	0.0159	75 Watts Incandescent Lamp	0.0750	$40.00
16 Watt Pin Based CFL Electronic Ballast	0.0169	80 Watts Incandescent Lamp	0.0800	$40.00
17 Watt Pin Based CFL Electronic Ballast	0.0180	85 Watts Incandescent Lamp	0.0850	$40.00
18 Watt Pin Based CFL Electronic Ballast	0.0190	90 Watts Incandescent Lamp	0.0900	$40.00
19 Watt Pin Based CFL Electronic Ballast	0.0201	95 Watts Incandescent Lamp	0.0950	$40.00
20 Watt Pin Based CFL Electronic Ballast	0.0212	100 Watts Incandescent Lamp	0.1000	$40.00
21 Watt Pin Based CFL Electronic Ballast	0.0222	105 Watts Incandescent Lamp	0.1050	$40.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
22 Watt Pin Based CFL Electronic Ballast	0.0233	110 Watts Incandescent Lamp	0.1100	$40.00
23 Watt Pin Based CFL Electronic Ballast	0.0243	115 Watts Incandescent Lamp	0.1150	$40.00
24 Watt Pin Based CFL Electronic Ballast	0.0254	120 Watts Incandescent Lamp	0.1200	$40.00
25 Watt Pin Based CFL Electronic Ballast	0.0265	125 Watts Incandescent Lamp	0.1250	$40.00
26 Watt Pin Based CFL Electronic Ballast	0.0275	130 Watts Incandescent Lamp	0.1300	$40.00
27 Watt Pin Based CFL Electronic Ballast	0.0286	135 Watts Incandescent Lamp	0.1350	$40.00
28 Watt Pin Based CFL Electronic Ballast	0.0296	140 Watts Incandescent Lamp	0.1400	$40.00
29 Watt Pin Based CFL Electronic Ballast	0.0307	145 Watts Incandescent Lamp	0.1450	$40.00
30 Watt Pin Based CFL Electronic Ballast	0.0317	150 Watts Incandescent Lamp	0.1500	$40.00
31 Watt Pin Based CFL Electronic Ballast	0.0328	155 Watts Incandescent Lamp	0.1550	$40.00
32 Watt Pin Based CFL Electronic Ballast	0.0339	160 Watts Incandescent Lamp	0.1600	$40.00
33 Watt Pin Based CFL Electronic Ballast	0.0349	165 Watts Incandescent Lamp	0.1650	$40.00
34 Watt Pin Based CFL Electronic Ballast	0.0360	170 Watts Incandescent Lamp	0.1700	$40.00
35 Watt Pin Based CFL Electronic Ballast	0.0370	175 Watts Incandescent Lamp	0.1750	$40.00
36 Watt Pin Based CFL Electronic Ballast	0.0381	180 Watts Incandescent Lamp	0.1800	$40.00
37 Watt Pin Based CFL Electronic Ballast	0.0391	185 Watts Incandescent Lamp	0.1850	$50.00
38 Watt Pin Based CFL Electronic Ballast	0.0402	190 Watts Incandescent Lamp	0.1900	$50.00
39 Watt Pin Based CFL Electronic Ballast	0.0413	195 Watts Incandescent Lamp	0.1950	$50.00
40 Watt Pin Based CFL Electronic Ballast	0.0423	200 Watts Incandescent Lamp	0.2000	$50.00
41 Watt Pin Based CFL Electronic Ballast	0.0434	200 Watts Incandescent Lamp	0.2000	$50.00
42 Watt Pin Based CFL Electronic Ballast	0.0444	200 Watts Incandescent Lamp	0.2000	$50.00
43 Watt Pin Based CFL Electronic Ballast	0.0455	250 Watts Incandescent Lamp	0.2500	$50.00
44 Watt Pin Based CFL Electronic Ballast	0.0466	250 Watts Incandescent Lamp	0.2500	$50.00
45 Watt Pin Based CFL Electronic Ballast	0.0476	250 Watts Incandescent Lamp	0.2500	$50.00
46 Watt Pin Based CFL Electronic Ballast	0.0487	250 Watts Incandescent Lamp	0.2500	$50.00
47 Watt Pin Based CFL Electronic Ballast	0.0497	250 Watts Incandescent Lamp	0.2500	$50.00
48 Watt Pin Based CFL Electronic Ballast	0.0508	250 Watts Incandescent Lamp	0.2500	$50.00
49 Watt Pin Based CFL Electronic Ballast	0.0518	250 Watts Incandescent Lamp	0.2500	$50.00
50 Watt Pin Based CFL Electronic Ballast	0.0529	250 Watts Incandescent Lamp	0.2500	$50.00
51 Watt Pin Based CFL Electronic Ballast	0.0540	250 Watts Incandescent Lamp	0.2500	$50.00
52 Watt Pin Based CFL Electronic Ballast	0.0550	250 Watts Incandescent Lamp	0.2500	$50.00
53 Watt Pin Based CFL Electronic Ballast	0.0561	250 Watts Incandescent Lamp	0.2500	$50.00
54 Watt Pin Based CFL Electronic Ballast	0.0571	250 Watts Incandescent Lamp	0.2500	$50.00
55 Watt Pin Based CFL Electronic Ballast	0.0582	300 Watts Incandescent Lamp	0.3000	$50.00
56 Watt Pin Based CFL Electronic Ballast	0.0592	300 Watts Incandescent Lamp	0.3000	$50.00
57 Watt Pin Based CFL Electronic Ballast	0.0603	300 Watts Incandescent Lamp	0.3000	$50.00
58 Watt Pin Based CFL Electronic Ballast	0.0614	300 Watts Incandescent Lamp	0.3000	$50.00
59 Watt Pin Based CFL Electronic Ballast	0.0624	300 Watts Incandescent Lamp	0.3000	$50.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
60 Watt Pin Based CFL Electronic Ballast	0.0635	300 Watts Incandescent Lamp	0.3000	$50.00
61 Watt Pin Based CFL Electronic Ballast	0.0645	300 Watts Incandescent Lamp	0.3000	$50.00
62 Watt Pin Based CFL Electronic Ballast	0.0656	300 Watts Incandescent Lamp	0.3000	$50.00
63 Watt Pin Based CFL Electronic Ballast	0.0667	300 Watts Incandescent Lamp	0.3000	$50.00
64 Watt Pin Based CFL Electronic Ballast	0.0677	350 Watts Incandescent Lamp	0.3500	$50.00
65 Watt Pin Based CFL Electronic Ballast	0.0688	350 Watts Incandescent Lamp	0.3500	$50.00
66 Watt Pin Based CFL Electronic Ballast	0.0698	350 Watts Incandescent Lamp	0.3500	$50.00
67 Watt Pin Based CFL Electronic Ballast	0.0709	350 Watts Incandescent Lamp	0.3500	$50.00
68 Watt Pin Based CFL Electronic Ballast	0.0719	350 Watts Incandescent Lamp	0.3500	$50.00
69 Watt Pin Based CFL Electronic Ballast	0.0730	350 Watts Incandescent Lamp	0.3500	$50.00
70 Watt Pin Based CFL Electronic Ballast	0.0741	350 Watts Incandescent Lamp	0.3500	$50.00
71 Watt Pin Based CFL Electronic Ballast	0.0751	350 Watts Incandescent Lamp	0.3500	$50.00
72 Watt Pin Based CFL Electronic Ballast	0.0762	350 Watts Incandescent Lamp	0.3500	$50.00
73 Watt Pin Based CFL Electronic Ballast	0.0772	350 Watts Incandescent Lamp	0.3500	$50.00
74 Watt Pin Based CFL Electronic Ballast	0.0783	400 Watts Incandescent Lamp	0.4000	$50.00
75 Watt Pin Based CFL Electronic Ballast	0.0794	400 Watts Incandescent Lamp	0.4000	$50.00
76 Watt Pin Based CFL Electronic Ballast	0.0804	400 Watts Incandescent Lamp	0.4000	$50.00
77 Watt Pin Based CFL Electronic Ballast	0.0815	400 Watts Incandescent Lamp	0.4000	$50.00
78 Watt Pin Based CFL Electronic Ballast	0.0825	400 Watts Incandescent Lamp	0.4000	$50.00
79 Watt Pin Based CFL Electronic Ballast	0.0836	400 Watts Incandescent Lamp	0.4000	$50.00
80 Watt Pin Based CFL Electronic Ballast	0.0846	500 Watts Incandescent Lamp	0.5000	$50.00
81 Watt Pin Based CFL Electronic Ballast	0.0857	500 Watts Incandescent Lamp	0.5000	$50.00
82 Watt Pin Based CFL Electronic Ballast	0.0868	500 Watts Incandescent Lamp	0.5000	$50.00
83 Watt Pin Based CFL Electronic Ballast	0.0878	500 Watts Incandescent Lamp	0.5000	$50.00
84 Watt Pin Based CFL Electronic Ballast	0.0889	500 Watts Incandescent Lamp	0.5000	$50.00
85 Watt Pin Based CFL Electronic Ballast	0.0899	500 Watts Incandescent Lamp	0.5000	$50.00
86 Watt Pin Based CFL Electronic Ballast	0.0910	500 Watts Incandescent Lamp	0.5000	$50.00
87 Watt Pin Based CFL Electronic Ballast	0.0920	500 Watts Incandescent Lamp	0.5000	$50.00
88 Watt Pin Based CFL Electronic Ballast	0.0931	500 Watts Incandescent Lamp	0.5000	$50.00
89 Watt Pin Based CFL Electronic Ballast	0.0942	500 Watts Incandescent Lamp	0.5000	$50.00
90 Watt Pin Based CFL Electronic Ballast	0.0952	500 Watts Incandescent Lamp	0.5000	$50.00
91 Watt Pin Based CFL Electronic Ballast	0.0963	500 Watts Incandescent Lamp	0.5000	$50.00
92 Watt Pin Based CFL Electronic Ballast	0.0973	500 Watts Incandescent Lamp	0.5000	$50.00
93 Watt Pin Based CFL Electronic Ballast	0.0984	500 Watts Incandescent Lamp	0.5000	$50.00
94 Watt Pin Based CFL Electronic Ballast	0.0995	500 Watts Incandescent Lamp	0.5000	$50.00
95 Watt Pin Based CFL Electronic Ballast	0.1005	500 Watts Incandescent Lamp	0.5000	$50.00
96 Watt Pin Based CFL Electronic Ballast	0.1016	500 Watts Incandescent Lamp	0.5000	$50.00
97 Watt Pin Based CFL Electronic Ballast	0.1026	500 Watts Incandescent Lamp	0.5000	$50.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
98 Watt Pin Based CFL Electronic Ballast	0.1037	500 Watts Incandescent Lamp	0.5000	$50.00
99 Watt Pin Based CFL Electronic Ballast	0.1047	500 Watts Incandescent Lamp	0.5000	$50.00
100 Watt Pin Based CFL Electronic Ballast	0.1058	500 Watts Incandescent Lamp	0.5000	$50.00
(2) F54T5/HO 45.8" lamps with a ~1.0 ballast factor electronic ballast, high bay	0.1170	Metal Halide, (1) 175W lamp	0.2100	$50.00
(3) F54T5/HO 45.8" lamps with a ~1.0 ballast factor electronic ballast, high bay	0.1790	Metal Halide, (1) 175W lamp	0.2100	$50.00
(4) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.1120	Metal Halide, (1) 175W lamp	0.2100	$50.00
1 Watt Interior LED lamp	0.0010	5 Watt Incandescent Lamp	0.0050	$33.91
2 Watt Interior LED lamp	0.0020	10 Watt Incandescent Lamp	0.0100	$33.91
3 Watt Interior LED lamp	0.0030	15 Watt Incandescent Lamp	0.0150	$33.91
4 Watt Interior LED lamp	0.0040	20 Watt Incandescent Lamp	0.0200	$33.91
5 Watt Interior LED lamp	0.0050	25 Watt Incandescent Lamp	0.0250	$33.91
6 Watt Interior LED lamp	0.0060	30 Watt Incandescent Lamp	0.0300	$39.79
7 Watt Interior LED lamp	0.0070	35 Watt Incandescent Lamp	0.0350	$39.79
8 Watt Interior LED lamp	0.0080	40 Watt Incandescent Lamp	0.0400	$39.79
9 Watt Interior LED lamp	0.0090	45 Watt Incandescent Lamp	0.0450	$39.79
10 Watt Interior LED lamp	0.0100	50 Watt Incandescent Lamp	0.0500	$39.79
11 Watt Interior LED lamp	0.0110	55 Watt Incandescent Lamp	0.0550	$64.96
12 Watt Interior LED lamp	0.0120	60 Watt Incandescent Lamp	0.0600	$64.96
13 Watt Interior LED lamp	0.0130	65 Watt Incandescent Lamp	0.0650	$64.96
14 Watt Interior LED lamp	0.0140	70 Watt Incandescent Lamp	0.0700	$64.96
15 Watt Interior LED lamp	0.0150	75 Watt Incandescent Lamp	0.0750	$64.96
16 Watt Interior LED lamp	0.0160	80 Watt Incandescent Lamp	0.0800	$64.96
17 Watt Interior LED lamp	0.0170	85 Watt Incandescent Lamp	0.0850	$64.96
18 Watt Interior LED lamp	0.0180	90 Watt Incandescent Lamp	0.0900	$64.96
19 Watt Interior LED lamp	0.0190	95 Watt Incandescent Lamp	0.0950	$64.96
20 Watt Interior LED lamp	0.0200	100 Watt Incandescent Lamp	0.1000	$64.96
8 Watt Interior LED Fixture	0.0080	40 Watt Incandescent Fixture	0.0400	$123.47
9 Watt Interior LED Fixture	0.0090	45 Watt Incandescent Fixture	0.0450	$123.47
10 Watt Interior LED Fixture	0.0100	50 Watt Incandescent Fixture	0.0500	$123.47
11 Watt Interior LED Fixture	0.0110	55 Watt Incandescent Fixture	0.0550	$123.47
12 Watt Interior LED Fixture	0.0120	60 Watt Incandescent Fixture	0.0600	$123.47
13 Watt Interior LED Fixture	0.0130	65 Watt Incandescent Fixture	0.0650	$123.47
14 Watt Interior LED Fixture	0.0140	70 Watt Incandescent Fixture	0.0700	$123.47
15 Watt Interior LED Fixture	0.0150	75 Watt Incandescent Fixture	0.0750	$123.47
16 Watt Interior LED Fixture	0.0160	80 Watt Incandescent Fixture	0.0800	$129.09
17 Watt Interior LED Fixture	0.0170	85 Watt Incandescent Fixture	0.0850	$129.09

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
18 Watt Interior LED Fixture	0.0180	90 Watt Incandescent Fixture	0.0900	$129.09
19 Watt Interior LED Fixture	0.0190	95 Watt Incandescent Fixture	0.0950	$129.09
20 Watt Interior LED Fixture	0.0200	100 Watt Incandescent Fixture	0.1000	$129.09
21 Watt Interior LED Fixture	0.0210	105 Watt Incandescent Fixture	0.1050	$129.09
22 Watt Interior LED Fixture	0.0220	110 Watt Incandescent Fixture	0.1100	$129.09
23 Watt Interior LED Fixture	0.0230	115 Watt Incandescent Fixture	0.1150	$129.09
24 Watt Interior LED Fixture	0.0240	120 Watt Incandescent Fixture	0.1200	$129.09
25 Watt Interior LED Fixture	0.0250	125 Watt Incandescent Fixture	0.1250	$129.09
26 Watt Interior LED Fixture	0.0260	130 Watt Incandescent Fixture	0.1300	$202.30
27 Watt Interior LED Fixture	0.0270	135 Watt Incandescent Fixture	0.1350	$202.30
28 Watt Interior LED Fixture	0.0280	140 Watt Incandescent Fixture	0.1400	$202.30
29 Watt Interior LED Fixture	0.0290	145 Watt Incandescent Fixture	0.1450	$202.30
30 Watt Interior LED Fixture	0.0300	150 Watt Incandescent Fixture	0.1500	$202.30
31 Watt Interior LED Fixture	0.0310	155 Watt Incandescent Fixture	0.1550	$202.30
32 Watt Interior LED Fixture	0.0320	160 Watt Incandescent Fixture	0.1600	$202.30
33 Watt Interior LED Fixture	0.0330	165 Watt Incandescent Fixture	0.1650	$202.30
34 Watt Interior LED Fixture	0.0340	170 Watt Incandescent Fixture	0.1700	$202.30
35 Watt Interior LED Fixture	0.0350	175 Watt Incandescent Fixture	0.1750	$202.30
36 Watt Interior LED Fixture	0.0360	180 Watt Incandescent Fixture	0.1800	$202.30
37 Watt Interior LED Fixture	0.0370	185 Watt Incandescent Fixture	0.1850	$202.30
38 Watt Interior LED Fixture	0.0380	190 Watt Incandescent Fixture	0.1900	$202.30
39 Watt Interior LED Fixture	0.0390	195 Watt Incandescent Fixture	0.1950	$202.30
40 Watt Interior LED Fixture	0.0400	200 Watt Incandescent Fixture	0.2000	$202.30
41 Watt Interior LED Fixture	0.0410	200 Watt Incandescent Fixture	0.2000	$202.30
42 Watt Interior LED Fixture	0.0420	200 Watt Incandescent Fixture	0.2000	$202.30
43 Watt Interior LED Fixture	0.0430	200 Watt Incandescent Fixture	0.2000	$202.30
44 Watt Interior LED Fixture	0.0440	200 Watt Incandescent Fixture	0.2000	$202.30
45 Watt Interior LED Fixture	0.0450	200 Watt Incandescent Fixture	0.2000	$202.30
46 Watt Interior LED Fixture	0.0460	250 Watt Incandescent Fixture	0.2500	$202.30
47 Watt Interior LED Fixture	0.0470	250 Watt Incandescent Fixture	0.2500	$202.30
48 Watt Interior LED Fixture	0.0480	250 Watt Incandescent Fixture	0.2500	$202.30
49 Watt Interior LED Fixture	0.0490	250 Watt Incandescent Fixture	0.2500	$202.30
50 Watt Interior LED Fixture	0.0500	250 Watt Incandescent Fixture	0.2500	$202.30
25 Watt Exterior Canopy or Soffit LED Fixture	0.0250	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$448.00
26 Watt Exterior Canopy or Soffit LED Fixture	0.0260	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$448.00
27 Watt Exterior Canopy or Soffit LED Fixture	0.0270	125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500	$448.00
28 Watt Exterior Canopy or Soffit LED Fixture	0.0280	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$448.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
29 Watt Exterior Canopy or Soffit LED Fixture	0.0290	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$448.00
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$448.00
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$448.00
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320	150 Watt Exterior Canopy or Soffit MH Fixture	0.1850	$448.00
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$448.00
34 Watt Exterior Canopy or Soffit LED Fixture	0.0340	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$448.00
35 Watt Exterior Canopy or Soffit LED Fixture	0.0350	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$448.00
36 Watt Exterior Canopy or Soffit LED Fixture	0.0360	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$448.00
37 Watt Exterior Canopy or Soffit LED Fixture	0.0370	175 Watt Exterior Canopy or Soffit MH Fixture	0.2100	$448.00
38 Watt Exterior Canopy or Soffit LED Fixture	0.0380	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$448.00
39 Watt Exterior Canopy or Soffit LED Fixture	0.0390	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$448.00
40 Watt Exterior Canopy or Soffit LED Fixture	0.0400	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$448.00
41 Watt Exterior Canopy or Soffit LED Fixture	0.0410	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$448.00
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$448.00
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$448.00
44 Watt Exterior Canopy or Soffit LED Fixture	0.0440	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$448.00
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450	200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320	$448.00
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$448.00
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$448.00
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$448.00
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$448.00
50 Watt Exterior Canopy or Soffit LED Fixture	0.0500	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$448.00
51 Watt Exterior Canopy or Soffit LED Fixture	0.0510	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$314.75
52 Watt Exterior Canopy or Soffit LED Fixture	0.0520	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$314.75
53 Watt Exterior Canopy or Soffit LED Fixture	0.0530	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$314.75
54 Watt Exterior Canopy or Soffit LED Fixture	0.0540	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$314.75
55 Watt Exterior Canopy or Soffit LED Fixture	0.0550	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$314.75
56 Watt Exterior Canopy or Soffit LED Fixture	0.0560	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$314.75
57 Watt Exterior Canopy or Soffit LED Fixture	0.0570	250 Watt Exterior Canopy or Soffit MH Fixture	0.2950	$314.75
58 Watt Exterior Canopy or Soffit LED Fixture	0.0580	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
59 Watt Exterior Canopy or Soffit LED Fixture	0.0590	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
60 Watt Exterior Canopy or Soffit LED Fixture	0.0600	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
61 Watt Exterior Canopy or Soffit LED Fixture	0.0610	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
62 Watt Exterior Canopy or Soffit LED Fixture	0.0620	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
63 Watt Exterior Canopy or Soffit LED Fixture	0.0630	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
64 Watt Exterior Canopy or Soffit LED Fixture	0.0640	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
65 Watt Exterior Canopy or Soffit LED Fixture	0.0650	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
66 Watt Exterior Canopy or Soffit LED Fixture	0.0660	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
67 Watt Exterior Canopy or Soffit LED Fixture	0.0670	320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700	$314.75
68 Watt Exterior Canopy or Soffit LED Fixture	0.0680	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$314.75
69 Watt Exterior Canopy or Soffit LED Fixture	0.0690	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$314.75
70 Watt Exterior Canopy or Soffit LED Fixture	0.0700	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$314.75
71 Watt Exterior Canopy or Soffit LED Fixture	0.0710	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$314.75
72 Watt Exterior Canopy or Soffit LED Fixture	0.0720	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$314.75
73 Watt Exterior Canopy or Soffit LED Fixture	0.0730	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$314.75
74 Watt Exterior Canopy or Soffit LED Fixture	0.0740	350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100	$314.75
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
84 Watt Exterior Canopy or Soffit LED Fixture	0.0840	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
85 Watt Exterior Canopy or Soffit LED Fixture	0.0850	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
86 Watt Exterior Canopy or Soffit LED Fixture	0.0860	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
87 Watt Exterior Canopy or Soffit LED Fixture	0.0870	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
88 Watt Exterior Canopy or Soffit LED Fixture	0.0880	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
89 Watt Exterior Canopy or Soffit LED Fixture	0.0890	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
90 Watt Exterior Canopy or Soffit LED Fixture	0.0900	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
91 Watt Exterior Canopy or Soffit LED Fixture	0.0910	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
92 Watt Exterior Canopy or Soffit LED Fixture	0.0920	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
93 Watt Exterior Canopy or Soffit LED Fixture	0.0930	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
94 Watt Exterior Canopy or Soffit LED Fixture	0.0940	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
95 Watt Exterior Canopy or Soffit LED Fixture	0.0950	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
96 Watt Exterior Canopy or Soffit LED Fixture	0.0960	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
97 Watt Exterior Canopy or Soffit LED Fixture	0.0970	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
98 Watt Exterior Canopy or Soffit LED Fixture	0.0980	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
99 Watt Exterior Canopy or Soffit LED Fixture	0.0990	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
100 Watt Exterior Canopy or Soffit LED Fixture	0.1000	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$314.75
101 Watt Exterior Canopy or Soffit LED Fixture	0.1010	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
102 Watt Exterior Canopy or Soffit LED Fixture	0.1020	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
103 Watt Exterior Canopy or Soffit LED Fixture	0.1030	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
104 Watt Exterior Canopy or Soffit LED Fixture	0.1040	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
105 Watt Exterior Canopy or Soffit LED Fixture	0.1050	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
106 Watt Exterior Canopy or Soffit LED Fixture	0.1060	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
107 Watt Exterior Canopy or Soffit LED Fixture	0.1070	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
108 Watt Exterior Canopy or Soffit LED Fixture	0.1080	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
109 Watt Exterior Canopy or Soffit LED Fixture	0.1090	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
110 Watt Exterior Canopy or Soffit LED Fixture	0.1100	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
111 Watt Exterior Canopy or Soffit LED Fixture	0.1110	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
112 Watt Exterior Canopy or Soffit LED Fixture	0.1120	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
113 Watt Exterior Canopy or Soffit LED Fixture	0.1130	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
114 Watt Exterior Canopy or Soffit LED Fixture	0.1140	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
115 Watt Exterior Canopy or Soffit LED Fixture	0.1150	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
116 Watt Exterior Canopy or Soffit LED Fixture	0.1160	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
117 Watt Exterior Canopy or Soffit LED Fixture	0.1170	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
118 Watt Exterior Canopy or Soffit LED Fixture	0.1180	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
119 Watt Exterior Canopy or Soffit LED Fixture	0.1190	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
120 Watt Exterior Canopy or Soffit LED Fixture	0.1200	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
121 Watt Exterior Canopy or Soffit LED Fixture	0.1210	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
122 Watt Exterior Canopy or Soffit LED Fixture	0.1220	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
123 Watt Exterior Canopy or Soffit LED Fixture	0.1230	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
124 Watt Exterior Canopy or Soffit LED Fixture	0.1240	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
125 Watt Exterior Canopy or Soffit LED Fixture	0.1250	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
126 Watt Exterior Canopy or Soffit LED Fixture	0.1260	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
127 Watt Exterior Canopy or Soffit LED Fixture	0.1270	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
128 Watt Exterior Canopy or Soffit LED Fixture	0.1280	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
129 Watt Exterior Canopy or Soffit LED Fixture	0.1290	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
130 Watt Exterior Canopy or Soffit LED Fixture	0.1300	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
131 Watt Exterior Canopy or Soffit LED Fixture	0.1310	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
132 Watt Exterior Canopy or Soffit LED Fixture	0.1320	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
133 Watt Exterior Canopy or Soffit LED Fixture	0.1330	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
134 Watt Exterior Canopy or Soffit LED Fixture	0.1340	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
135 Watt Exterior Canopy or Soffit LED Fixture	0.1350	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
136 Watt Exterior Canopy or Soffit LED Fixture	0.1360	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
137 Watt Exterior Canopy or Soffit LED Fixture	0.1370	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
138 Watt Exterior Canopy or Soffit LED Fixture	0.1380	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
139 Watt Exterior Canopy or Soffit LED Fixture	0.1390	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
140 Watt Exterior Canopy or Soffit LED Fixture	0.1400	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
141 Watt Exterior Canopy or Soffit LED Fixture	0.1410	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
142 Watt Exterior Canopy or Soffit LED Fixture	0.1420	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
143 Watt Exterior Canopy or Soffit LED Fixture	0.1430	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
144 Watt Exterior Canopy or Soffit LED Fixture	0.1440	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
145 Watt Exterior Canopy or Soffit LED Fixture	0.1450	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
146 Watt Exterior Canopy or Soffit LED Fixture	0.1460	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
147 Watt Exterior Canopy or Soffit LED Fixture	0.1470	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
148 Watt Exterior Canopy or Soffit LED Fixture	0.1480	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
149 Watt Exterior Canopy or Soffit LED Fixture	0.1490	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
150 Watt Exterior Canopy or Soffit LED Fixture	0.1500	400 Watt Exterior Canopy or Soffit MH Fixture	0.4540	$420.00
15 Watt Refrigerated Case LED Strip	0.0150	T8 5 Foot 55W Fluorescent	0.0700	$135.71
16 Watt Refrigerated Case LED Strip	0.0160	T8 5 Foot 55W Fluorescent	0.0700	$135.71
17 Watt Refrigerated Case LED Strip	0.0170	T8 5 Foot 55W Fluorescent	0.0700	$135.71
18 Watt Refrigerated Case LED Strip	0.0180	T8 5 Foot 55W Fluorescent	0.0700	$135.71
19 Watt Refrigerated Case LED Strip	0.0190	T8 5 Foot 55W Fluorescent	0.0700	$135.71
20 Watt Refrigerated Case LED Strip	0.0200	T8 5 Foot 55W Fluorescent	0.0700	$135.71
21 Watt Refrigerated Case LED Strip	0.0210	T8 5 Foot 55W Fluorescent	0.0700	$135.71
22 Watt Refrigerated Case LED Strip	0.0220	T8 5 Foot 55W Fluorescent	0.0700	$135.71
23 Watt Refrigerated Case LED Strip	0.0230	T8 5 Foot 55W Fluorescent	0.0700	$135.71
24 Watt Refrigerated Case LED Strip	0.0240	T8 5 Foot 55W Fluorescent	0.0700	$135.71
25 Watt Refrigerated Case LED Strip	0.0250	T8 5 Foot 55W Fluorescent	0.0700	$135.71
26 Watt Refrigerated Case LED Strip	0.0260	T8 5 Foot 55W Fluorescent	0.0700	$135.71
27 Watt Refrigerated Case LED Strip	0.0270	T8 5 Foot 55W Fluorescent	0.0700	$135.71
28 Watt Refrigerated Case LED Strip	0.0280	T8 5 Foot 55W Fluorescent	0.0700	$135.71
29 Watt Refrigerated Case LED Strip	0.0290	T8 5 Foot 55W Fluorescent	0.0700	$135.71
30 Watt Refrigerated Case LED Strip	0.0300	T8 5 Foot 55W Fluorescent	0.0700	$135.71
31 Watt Refrigerated Case LED Strip	0.0310	T8 5 Foot 55W Fluorescent	0.0700	$135.71
32 Watt Refrigerated Case LED Strip	0.0320	T8 5 Foot 55W Fluorescent	0.0700	$135.71
33 Watt Refrigerated Case LED Strip	0.0330	T8 5 Foot 55W Fluorescent	0.0700	$135.71
34 Watt Refrigerated Case LED Strip	0.0340	T8 5 Foot 55W Fluorescent	0.0700	$135.71
35 Watt Refrigerated Case LED Strip	0.0350	T8 5 Foot 55W Fluorescent	0.0700	$135.71
36 Watt Refrigerated Case LED Strip	0.0360	T8 5 Foot 55W Fluorescent	0.0700	$135.71
37 Watt Refrigerated Case LED Strip	0.0370	T8 5 Foot 55W Fluorescent	0.0700	$135.71
38 Watt Refrigerated Case LED Strip	0.0380	T8 5 Foot 55W Fluorescent	0.0700	$135.71
39 Watt Refrigerated Case LED Strip	0.0390	T8 5 Foot 55W Fluorescent	0.0700	$135.71
40 Watt Refrigerated Case LED Strip	0.0400	T8 5 Foot 55W Fluorescent	0.0700	$135.71
41 Watt Refrigerated Case LED Strip	0.0410	T8 5 Foot 55W Fluorescent	0.0700	$135.71
42 Watt Refrigerated Case LED Strip	0.0420	T8 5 Foot 55W Fluorescent	0.0700	$135.71
43 Watt Refrigerated Case LED Strip	0.0430	T8 5 Foot 55W Fluorescent	0.0700	$135.71
44 Watt Refrigerated Case LED Strip	0.0440	T8 5 Foot 55W Fluorescent	0.0700	$135.71

Table 5: Deemed Fixture Table - New Construction

Energy Efficient Fixture	kW_EE	Baseline Fixture	kW_Base	Incremental Cost
45 Watt Refrigerated Case LED Strip	0.0450	T8 5 Foot 55W Fluorescent	0.0700	$135.71
46 Watt Refrigerated Case LED Strip	0.0460	T8 5 Foot 55W Fluorescent	0.0700	$135.71
47 Watt Refrigerated Case LED Strip	0.0470	T8 5 Foot 55W Fluorescent	0.0700	$135.71
48 Watt Refrigerated Case LED Strip	0.0480	T8 5 Foot 55W Fluorescent	0.0700	$135.71
49 Watt Refrigerated Case LED Strip	0.0490	T8 5 Foot 55W Fluorescent	0.0700	$135.71
50 Watt Refrigerated Case LED Strip	0.0500	T8 5 Foot 55W Fluorescent	0.0700	$135.71

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Fluorescent T8 1 Lamp 32 Watts	0.0282
Fluorescent T8 1 Lamp 30 Watts	0.0264
Fluorescent T8 1 Lamp 28 Watts	0.0246
Fluorescent T8 1 Lamp 25 Watts	0.0220
Fluorescent T8 2 Lamp 32 Watts	0.0563
Fluorescent T8 2 Lamp 30 Watts	0.0528
Fluorescent T8 2 Lamp 28 Watts	0.0493
Fluorescent T8 2 Lamp 25 Watts	0.0440
Fluorescent T8 3 Lamp 32 Watts	0.0845
Fluorescent T8 3 Lamp 30 Watts	0.0792
Fluorescent T8 3 Lamp 28 Watts	0.0739
Fluorescent T8 3 Lamp 25 Watts	0.0660
Fluorescent T8 4 Lamp 32 Watts	0.1126
Fluorescent T8 4 Lamp 30 Watts	0.1056
Fluorescent T8 4 Lamp 28 Watts	0.0986
Fluorescent T8 4 Lamp 25 Watts	0.0880
Fluorescent T8 1 Lamp 55 Watts	0.0484
Fluorescent T8 1 Lamp 59 Watts	0.0519
Fluorescent T8 1 Lamp 86 Watts	0.0757
Fluorescent T8 2 Lamp 55 Watts	0.0968
Fluorescent T8 2 Lamp 59 Watts	0.1038
Fluorescent T8 2 Lamp 86 Watts	0.1514
Fluorescent T8 3 Lamp 55 Watts	0.1452
Fluorescent T8 3 Lamp 59 Watts	0.1558
Fluorescent T8 3 Lamp 86 Watts	0.2270
Fluorescent T8 4 Lamp 55 Watts	0.1936
Fluorescent T8 4 Lamp 59 Watts	0.2077
Fluorescent T8 4 Lamp 86 Watts	0.3027
Fluorescent T8 U Tube 1 Lamp 32 Watts	0.0282

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Fluorescent T8 U Tube 1 Lamp 31 Watts	0.0273
Fluorescent T8 U Tube 1 Lamp 30 Watts	0.0264
Fluorescent T8 U Tube 1 Lamp 29 Watts	0.0255
Fluorescent T8 U Tube 1 Lamp 28 Watts	0.0246
Fluorescent T8 U Tube 2 Lamp 32 Watts	0.0563
Fluorescent T8 U Tube 2 Lamp 31 Watts	0.0546
Fluorescent T8 U Tube 2 Lamp 30 Watts	0.0528
Fluorescent T8 U Tube 2 Lamp 29 Watts	0.0510
Fluorescent T8 U Tube 2 Lamp 28 Watts	0.0493
Fluorescent T5 1 Lamp 28 Watts	0.0280
Fluorescent T5 1 Lamp 54 Watts	0.0540
Fluorescent T5 2 Lamp 28 Watts	0.0560
Fluorescent T5 2 Lamp 54 Watts	0.1080
Fluorescent T5 3 Lamp 28 Watts	0.0840
Fluorescent T5 3 Lamp 54 Watts	0.1620
Fluorescent T12 1 Lamp 32 Watts	0.0320
Fluorescent T12 1 Lamp 34 Watts	0.0340
Fluorescent T12 1 Lamp 39 Watts	0.0390
Fluorescent T12 1 Lamp 40 Watts	0.0400
Fluorescent T12 1 Lamp 55 Watts	0.0550
Fluorescent T12 1 Lamp 60 Watts	0.0600
Fluorescent T12 1 Lamp 115 Watts	0.1150
Fluorescent T12 2 Lamp 32 Watts	0.0640
Fluorescent T12 2 Lamp 34 Watts	0.0680
Fluorescent T12 2 Lamp 39 Watts	0.0780
Fluorescent T12 2 Lamp 40 Watts	0.0800
Fluorescent T12 2 Lamp 55 Watts	0.1100
Fluorescent T12 2 Lamp 60 Watts	0.1200
Fluorescent T12 2 Lamp 115 Watts	0.2300

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Fluorescent T12 3 Lamp 32 Watts	0.0960
Fluorescent T12 3 Lamp 34 Watts	0.1020
Fluorescent T12 3 Lamp 39 Watts	0.1170
Fluorescent T12 3 Lamp 40 Watts	0.1200
Fluorescent T12 3 Lamp 55 Watts	0.1650
Fluorescent T12 3 Lamp 60 Watts	0.1800
Fluorescent T12 3 Lamp 115 Watts	0.3450
Fluorescent T12 4 Lamp 32 Watts	0.1280
Fluorescent T12 4 Lamp 34 Watts	0.1360
Fluorescent T12 4 Lamp 39 Watts	0.1560
Fluorescent T12 4 Lamp 40 Watts	0.1600
Fluorescent T12 4 Lamp 55 Watts	0.2200
Fluorescent T12 4 Lamp 60 Watts	0.2400
Fluorescent T12 4 Lamp 115 Watts	0.4600
Fluorescent T12 U Tube 1 Lamp 34 Watts	0.1360
Fluorescent T12 U Tube 1 Lamp 40 Watts	0.0400
Fluorescent T12 U Tube 2 Lamp 34 Watts	0.0340
Fluorescent T12 U Tube 2 Lamp 40 Watts	0.0800
Fluorescent T12 U Tube 3 Lamp 34 Watts	0.0680
Fluorescent T12 U Tube 3 Lamp 40 Watts	0.1200
Fluorescent T12 U Tube 4 Lamp 34 Watts	0.1020
Fluorescent T12 U Tube 4 Lamp 40 Watts	0.1600
Fluorescent T12 Slim 1 Lamp 57 Watts	0.2280
Fluorescent T12 Slim 1 Lamp 60 Watts	0.0600
Fluorescent T12 Slim 1 Lamp 75 Watts	0.0750
Fluorescent T12 HO 1 Lamp 95 Watts	0.0950
Fluorescent T12 HO 1 Lamp 110 Watts	0.1100
Fluorescent T12 VHO 1 Lamp 195 Watts	0.1950
Fluorescent T12 VHO 1 Lamp 215 Watts	0.2150

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Fluorescent T12 Slim 2 Lamp 57 Watts	0.0570
Fluorescent T12 Slim 2 Lamp 60 Watts	0.1200
Fluorescent T12 Slim 2 Lamp 75 Watts	0.1500
Fluorescent T12 HO 2 Lamp 95 Watts	0.1900
Fluorescent T12 HO 2 Lamp 110 Watts	0.2200
Fluorescent T12 VHO 2 Lamp 195 Watts	0.3900
Fluorescent T12 VHO 2 Lamp 215 Watts	0.4300
Fluorescent T12 Slim 3 Lamp 57 Watts	0.1140
Fluorescent T12 Slim 3 Lamp 60 Watts	0.1800
Fluorescent T12 Slim 3 Lamp 75 Watts	0.2250
Fluorescent T12 HO 3 Lamp 95 Watts	0.2850
Fluorescent T12 HO 3 Lamp 110 Watts	0.3300
Fluorescent T12 VHO 3 Lamp 195 Watts	0.5850
Fluorescent T12 VHO 3 Lamp 215 Watts	0.6450
Fluorescent T12 Slim 4 Lamp 57 Watts	0.1710
Fluorescent T12 Slim 4 Lamp 60 Watts	0.2400
Fluorescent T12 Slim 4 Lamp 75 Watts	0.3000
Fluorescent T12 HO 4 Lamp 95 Watts	0.3800
Fluorescent T12 HO 4 Lamp 110 Watts	0.4400
Fluorescent T12 VHO 4 Lamp 195 Watts	0.7800
Fluorescent T12 VHO 4 Lamp 215 Watts	0.8600
Incandescent Lamp 5 Watts	0.0050
Incandescent Lamp 10 Watts	0.0100
Incandescent Lamp 15 Watts	0.0150
Incandescent Lamp 20 Watts	0.0200
Incandescent Lamp 25 Watts	0.0250
Incandescent Lamp 30 Watts	0.0300
Incandescent Lamp 35 Watts	0.0350
Incandescent Lamp 40 Watts	0.0400

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Incandescent Lamp 45 Watts	0.0450
Incandescent Lamp 50 Watts	0.0500
Incandescent Lamp 55 Watts	0.0550
Incandescent Lamp 60 Watts	0.0600
Incandescent Lamp 65 Watts	0.0650
Incandescent Lamp 70 Watts	0.0700
Incandescent Lamp 75 Watts	0.0750
Incandescent Lamp 80 Watts	0.0800
Incandescent Lamp 85 Watts	0.0850
Incandescent Lamp 90 Watts	0.0900
Incandescent Lamp 95 Watts	0.0950
Incandescent Lamp 100 Watts	0.1000
Incandescent Lamp 105 Watts	0.1050
Incandescent Lamp 110 Watts	0.1100
Incandescent Lamp 115 Watts	0.1150
Incandescent Lamp 120 Watts	0.1200
Incandescent Lamp 125 Watts	0.1250
Incandescent Lamp 130 Watts	0.1300
Incandescent Lamp 135 Watts	0.1350
Incandescent Lamp 140 Watts	0.1400
Incandescent Lamp 145 Watts	0.1450
Incandescent Lamp 150 Watts	0.1500
Incandescent Lamp 155 Watts	0.1550
Incandescent Lamp 160 Watts	0.1600
Incandescent Lamp 165 Watts	0.1650
Incandescent Lamp 170 Watts	0.1700
Incandescent Lamp 175 Watts	0.1750
Incandescent Lamp 180 Watts	0.1800
Incandescent Lamp 185 Watts	0.1850

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Incandescent Lamp 190 Watts	0.1900
Incandescent Lamp 195 Watts	0.1950
Incandescent Lamp 200 Watts	0.2000
Incandescent Lamp 205 Watts	0.2050
Incandescent Lamp 210 Watts	0.2100
Incandescent Lamp 215 Watts	0.2150
Incandescent Lamp 220 Watts	0.2200
Incandescent Lamp 225 Watts	0.2250
Incandescent Lamp 230 Watts	0.2300
Incandescent Lamp 235 Watts	0.2350
Incandescent Lamp 240 Watts	0.2400
Incandescent Lamp 245 Watts	0.2450
Incandescent Lamp 250 Watts	0.2500
Incandescent Lamp 255 Watts	0.2550
Incandescent Lamp 260 Watts	0.2600
Incandescent Lamp 265 Watts	0.2650
Incandescent Lamp 270 Watts	0.2700
Incandescent Lamp 275 Watts	0.2750
Incandescent Lamp 280 Watts	0.2800
Incandescent Lamp 285 Watts	0.2850
Incandescent Lamp 290 Watts	0.2900
Incandescent Lamp 295 Watts	0.2950
Incandescent Lamp 300 Watts	0.3000
Incandescent Lamp 305 Watts	0.3050
Incandescent Lamp 310 Watts	0.3100
Incandescent Lamp 315 Watts	0.3150
Incandescent Lamp 320 Watts	0.3200
Incandescent Lamp 325 Watts	0.3250
Incandescent Lamp 330 Watts	0.3300

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Incandescent Lamp 335 Watts	0.3350
Incandescent Lamp 340 Watts	0.3400
Incandescent Lamp 345 Watts	0.3450
Incandescent Lamp 350 Watts	0.3500
Incandescent Lamp 355 Watts	0.3550
Incandescent Lamp 360 Watts	0.3600
Incandescent Lamp 365 Watts	0.3650
Incandescent Lamp 370 Watts	0.3700
Incandescent Lamp 375 Watts	0.3750
Incandescent Lamp 380 Watts	0.3800
Incandescent Lamp 385 Watts	0.3850
Incandescent Lamp 390 Watts	0.3900
Incandescent Lamp 395 Watts	0.3950
Incandescent Lamp 400 Watts	0.4000
Incandescent Lamp 405 Watts	0.4050
Incandescent Lamp 410 Watts	0.4100
Incandescent Lamp 415 Watts	0.4150
Incandescent Lamp 420 Watts	0.4200
Incandescent Lamp 425 Watts	0.4250
Incandescent Lamp 430 Watts	0.4300
Incandescent Lamp 435 Watts	0.4350
Incandescent Lamp 440 Watts	0.4400
Incandescent Lamp 445 Watts	0.4450
Incandescent Lamp 450 Watts	0.4500
Incandescent Lamp 455 Watts	0.4550
Incandescent Lamp 460 Watts	0.4600
Incandescent Lamp 465 Watts	0.4650
Incandescent Lamp 470 Watts	0.4700
Incandescent Lamp 475 Watts	0.4750

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Incandescent Lamp 480 Watts	0.4800
Incandescent Lamp 485 Watts	0.4850
Incandescent Lamp 490 Watts	0.4900
Incandescent Lamp 495 Watts	0.4950
Incandescent Lamp 500 Watts	0.5000
Tungsten Halogen Lamp 35 Watts	0.0350
Tungsten Halogen Lamp 40 Watts	0.0400
Tungsten Halogen Lamp 42 Watts	0.0420
Tungsten Halogen Lamp 50 Watts	0.0500
Tungsten Halogen Lamp 52 Watts	0.0520
Tungsten Halogen Lamp 60 Watts	0.0600
Tungsten Halogen Lamp 72 Watts	0.0720
Tungsten Halogen Lamp 75 Watts	0.0750
Tungsten Halogen Lamp 80 Watts	0.0800
Tungsten Halogen Lamp 90 Watts	0.0900
Tungsten Halogen Lamp 100 Watts	0.1000
Tungsten Halogen Lamp 120 Watts	0.1200
Tungsten Halogen Lamp 150 Watts	0.1500
Tungsten Halogen Lamp 250 Watts	0.2500
Tungsten Halogen Lamp 500 Watts	0.5000
Tungsten Halogen Lamp 1000 Watts	1.0000
High Intensity Discharge Ceramic Lamp 20 Watts	0.0200
High Intensity Discharge Ceramic Lamp 39 Watts	0.0390
High Intensity Discharge Ceramic Lamp 70 Watts	0.0700
High Intensity Discharge Ceramic Lamp 150 Watts	0.1500
High Intensity Discharge Ceramic Lamp 250 Watts	0.2500
High Intensity Discharge Ceramic PAR Lamp 39 Watts	0.0390
High Intensity Discharge Ceramic PAR Lamp 70 Watts	0.0700
High Intensity Discharge Ceramic PAR Lamp 100 Watts	0.1000

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
High Intensity Discharge Ceramic PAR Lamp 150 Watts	0.1500
High Intensity Discharge Ceramic PAR Lamp 250 Watts	0.2500
High Intensity Discharge Ceramic PAR Lamp 320 Watts	0.3200
High Intensity Discharge Pulse Start Lamp 175 Watts	0.1750
High Intensity Discharge Pulse Start Lamp 200 Watts	0.2000
High Intensity Discharge Pulse Start Lamp 250 Watts	0.2500
High Intensity Discharge Pulse Start Lamp 320 Watts	0.3200
High Intensity Discharge Pulse Start Lamp 360 Watts	0.3600
High Intensity Discharge Pulse Start Lamp 400 Watts	0.4000
High Intensity Discharge Pulse Start Lamp 750 Watts	0.7500
High Intensity Discharge Pulse Start Lamp 950 Watts	0.9500
High Intensity Discharge Pulse Start Lamp 1000 Watts	1.0000
High Intensity Discharge Low Pressure Sodium Lamp 100 Watts	0.1000
High Intensity Discharge Low Pressure Sodium Lamp 150 Watts	0.1500
High Intensity Discharge Low Pressure Sodium Lamp 200 Watts	0.2000
High Intensity Discharge Low Pressure Sodium Lamp 250 Watts	0.2500
High Intensity Discharge Low Pressure Sodium Lamp 310 Watts	0.3100
High Intensity Discharge Low Pressure Sodium Lamp 400 Watts	0.4000
High Intensity Discharge Low Pressure Sodium Lamp 1000 Watts	1.0000
High Intensity Discharge Mercury Vapor Lamp 50 Watts	0.0750
High Intensity Discharge Mercury Vapor Lamp 75 Watts	0.0950
High Intensity Discharge Mercury Vapor Lamp 100 Watts	0.1220
High Intensity Discharge Mercury Vapor Lamp 175 Watts	0.2050
High Intensity Discharge Mercury Vapor Lamp 250 Watts	0.2850
High Intensity Discharge Mercury Vapor Lamp 400 Watts	0.4540
High Intensity Discharge Mercury Vapor Lamp 1000 Watts	1.0800
High Intensity Discharge High Pressure Sodium Lamp 35 Watts	0.0430
High Intensity Discharge High Pressure Sodium Lamp 50 Watts	0.0640
High Intensity Discharge High Pressure Sodium Lamp 70 Watts	0.0860

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
High Intensity Discharge High Pressure Sodium Lamp 100 Watts	0.1260
High Intensity Discharge High Pressure Sodium Lamp 150 Watts	0.1880
High Intensity Discharge High Pressure Sodium Lamp 200 Watts	0.2400
High Intensity Discharge High Pressure Sodium Lamp 250 Watts	0.2950
High Intensity Discharge High Pressure Sodium Lamp 310 Watts	0.3650
High Intensity Discharge High Pressure Sodium Lamp 400 Watts	0.4570
High Intensity Discharge High Pressure Sodium Lamp 600 Watts	0.6650
High Intensity Discharge High Pressure Sodium Lamp 750 Watts	0.8400
High Intensity Discharge High Pressure Sodium Lamp 1000 Watts	1.1000
High Intensity Discharge Metal Halide Medium Base Lamp 32 Watts	0.0380
High Intensity Discharge Metal Halide Medium Base Lamp 35/39 Watts	0.0480
High Intensity Discharge Metal Halide Medium Base Lamp 50 Watts	0.0620
High Intensity Discharge Metal Halide Medium Base Lamp 70 Watts	0.0930
High Intensity Discharge Metal Halide Medium Base Lamp 100 Watts	0.0125
High Intensity Discharge Metal Halide Medium Base Lamp 150 Watts	0.1730
High Intensity Discharge Metal Halide Double Ended Lamp 70 Watts	0.0940
High Intensity Discharge Metal Halide Double Ended Lamp 100 Watts	0.1300
High Intensity Discharge Metal Halide Double Ended Lamp 150 Watts	0.1850
High Intensity Discharge Metal Halide Mogul Base Lamp 175 Watts	0.2100
High Intensity Discharge Metal Halide Mogul Base Lamp 250 Watts	0.2950
High Intensity Discharge Metal Halide Mogul Base Lamp 400 Watts	0.4540
High Intensity Discharge Metal Halide Mogul Base Lamp 1000 Watts	1.0800
High Intensity Discharge Metal Halide Mogul Base Lamp 1500 Watts	1.6100
High Intensity Discharge Pulse Start Metal Halide Med Base Lamp 50 Watts	0.0620
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 70 Watts	0.0850
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 100 Watts	0.1180
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 125 Watts	0.1410
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 150 Watts	0.1730
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 175 Watts	0.1890

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 200 Watts	0.2180
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 250 Watts	0.2720
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 320 Watts	0.3420
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 350 Watts	0.3750
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 400 Watts	0.4250
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 450 Watts	0.4800
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 750 Watts	0.8120
High Intensity Discharge Pulse Start Metal Halide Mogul Base Lamp 1000 Watts	1.0800
High Bay Fluorescent T8 4 Lamp 32 Watts	0.1120
High Bay Fluorescent T8 4 Lamp 32 Watts	0.1680
High Bay Fluorescent T8 4 Lamp 32 Watts	0.2200
High Bay Fluorescent T8 4 Lamp 32 Watts	0.3360
High Bay Fluorescent T8 4 Lamp 32 Watts	0.4480
High Bay Fluorescent T8 4 Lamp 32 Watts	0.5110
High Bay Fluorescent T8 4 Lamp 32 Watts	0.5600
High Bay Fluorescent T8 VHO 4 Lamp 80 Watts	0.2790
High Bay Fluorescent T8 VHO 4 Lamp 80 Watts	0.5550
High Bay Fluorescent T8 VHO 4 Lamp 80 Watts	0.7400
High Bay Fluorescent T5 HO 4 Lamp 59 Watts	0.1170
High Bay Fluorescent T5 HO 4 Lamp 59 Watts	0.1790
High Bay Fluorescent T5 HO 4 Lamp 59 Watts	0.2340
High Bay Fluorescent T5 HO 4 Lamp 59 Watts	0.2580
High Bay Fluorescent T5 HO 4 Lamp 59 Watts	0.4680
High Bay Fluorescent T5 HO 4 Lamp 59 Watts	0.5850
1 Watt Screw In CFL Integral Ballast	0.0010
2 Watt Screw In CFL Integral Ballast	0.0020
3 Watt Screw In CFL Integral Ballast	0.0030
4 Watt Screw In CFL Integral Ballast	0.0040
5 Watt Screw In CFL Integral Ballast	0.0050

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
6 Watt Screw In CFL Integral Ballast	0.0060
7 Watt Screw In CFL Integral Ballast	0.0070
8 Watt Screw In CFL Integral Ballast	0.0080
9 Watt Screw In CFL Integral Ballast	0.0090
10 Watt Screw In CFL Integral Ballast	0.0100
11 Watt Screw In CFL Integral Ballast	0.0110
12 Watt Screw In CFL Integral Ballast	0.0120
13 Watt Screw In CFL Integral Ballast	0.0130
14 Watt Screw In CFL Integral Ballast	0.0140
15 Watt Screw In CFL Integral Ballast	0.0150
16 Watt Screw In CFL Integral Ballast	0.0160
17 Watt Screw In CFL Integral Ballast	0.0170
18 Watt Screw In CFL Integral Ballast	0.0180
19 Watt Screw In CFL Integral Ballast	0.0190
20 Watt Screw In CFL Integral Ballast	0.0200
21 Watt Screw In CFL Integral Ballast	0.0210
22 Watt Screw In CFL Integral Ballast	0.0220
23 Watt Screw In CFL Integral Ballast	0.0230
24 Watt Screw In CFL Integral Ballast	0.0240
25 Watt Screw In CFL Integral Ballast	0.0250
26 Watt Screw In CFL Integral Ballast	0.0260
27 Watt Screw In CFL Integral Ballast	0.0270
28 Watt Screw In CFL Integral Ballast	0.0280
29 Watt Screw In CFL Integral Ballast	0.0290
30 Watt Screw In CFL Integral Ballast	0.0300
31 Watt Screw In CFL Integral Ballast	0.0310
32 Watt Screw In CFL Integral Ballast	0.0320
33 Watt Screw In CFL Integral Ballast	0.0330
34 Watt Screw In CFL Integral Ballast	0.0340

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
35 Watt Screw In CFL Integral Ballast	0.0350
36 Watt Screw In CFL Integral Ballast	0.0360
37 Watt Screw In CFL Integral Ballast	0.0370
38 Watt Screw In CFL Integral Ballast	0.0380
39 Watt Screw In CFL Integral Ballast	0.0390
40 Watt Screw In CFL Integral Ballast	0.0400
41 Watt Screw In CFL Integral Ballast	0.0410
42 Watt Screw In CFL Integral Ballast	0.0420
43 Watt Screw In CFL Integral Ballast	0.0430
44 Watt Screw In CFL Integral Ballast	0.0440
45 Watt Screw In CFL Integral Ballast	0.0450
47 Watt Screw In CFL Integral Ballast	0.0470
48 Watt Screw In CFL Integral Ballast	0.0480
49 Watt Screw In CFL Integral Ballast	0.0490
50 Watt Screw In CFL Integral Ballast	0.0500
51 Watt Screw In CFL Integral Ballast	0.0510
52 Watt Screw In CFL Integral Ballast	0.0520
53 Watt Screw In CFL Integral Ballast	0.0530
54 Watt Screw In CFL Integral Ballast	0.0540
55 Watt Screw In CFL Integral Ballast	0.0550
56 Watt Screw In CFL Integral Ballast	0.0560
57 Watt Screw In CFL Integral Ballast	0.0570
58 Watt Screw In CFL Integral Ballast	0.0580
59 Watt Screw In CFL Integral Ballast	0.0590
61 Watt Screw In CFL Integral Ballast	0.0610
62 Watt Screw In CFL Integral Ballast	0.0620
63 Watt Screw In CFL Integral Ballast	0.0630
64 Watt Screw In CFL Integral Ballast	0.0640
65 Watt Screw In CFL Integral Ballast	0.0650

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
66 Watt Screw In CFL Integral Ballast	0.0660
67 Watt Screw In CFL Integral Ballast	0.0670
68 Watt Screw In CFL Integral Ballast	0.0680
69 Watt Screw In CFL Integral Ballast	0.0690
70 Watt Screw In CFL Integral Ballast	0.0700
71 Watt Screw In CFL Integral Ballast	0.0710
72 Watt Screw In CFL Integral Ballast	0.0720
73 Watt Screw In CFL Integral Ballast	0.0730
74 Watt Screw In CFL Integral Ballast	0.0740
75 Watt Screw In CFL Integral Ballast	0.0750
77 Watt Screw In CFL Integral Ballast	0.0770
79 Watt Screw In CFL Integral Ballast	0.0790
81 Watt Screw In CFL Integral Ballast	0.0810
83 Watt Screw In CFL Integral Ballast	0.0830
85 Watt Screw In CFL Integral Ballast	0.0850
87 Watt Screw In CFL Integral Ballast	0.0870
89 Watt Screw In CFL Integral Ballast	0.0890
91 Watt Screw In CFL Integral Ballast	0.0910
93 Watt Screw In CFL Integral Ballast	0.0930
95 Watt Screw In CFL Integral Ballast	0.0950
97 Watt Screw In CFL Integral Ballast	0.0970
98 Watt Screw In CFL Integral Ballast	0.0980
99 Watt Screw In CFL Integral Ballast	0.0990
100 Watt Screw In CFL Integral Ballast	0.1000
1 Watt Pin Based CFL Magnetic Ballast	0.0013
2 Watt Pin Based CFL Magnetic Ballast	0.0026
2 Watt Pin Based CFL Magnetic Ballast	0.0026
3 Watt Pin Based CFL Magnetic Ballast	0.0039
4 Watt Pin Based CFL Magnetic Ballast	0.0052

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
5 Watt Pin Based CFL Magnetic Ballast	0.0065
6 Watt Pin Based CFL Magnetic Ballast	0.0078
7 Watt Pin Based CFL Magnetic Ballast	0.0091
8 Watt Pin Based CFL Magnetic Ballast	0.0104
9 Watt Pin Based CFL Magnetic Ballast	0.0118
10 Watt Pin Based CFL Magnetic Ballast	0.0131
11 Watt Pin Based CFL Magnetic Ballast	0.0144
12 Watt Pin Based CFL Magnetic Ballast	0.0157
13 Watt Pin Based CFL Magnetic Ballast	0.0170
14 Watt Pin Based CFL Magnetic Ballast	0.0183
15 Watt Pin Based CFL Magnetic Ballast	0.0196
16 Watt Pin Based CFL Magnetic Ballast	0.0209
17 Watt Pin Based CFL Magnetic Ballast	0.0222
18 Watt Pin Based CFL Magnetic Ballast	0.0235
19 Watt Pin Based CFL Magnetic Ballast	0.0248
20 Watt Pin Based CFL Magnetic Ballast	0.0261
21 Watt Pin Based CFL Magnetic Ballast	0.0274
22 Watt Pin Based CFL Magnetic Ballast	0.0287
23 Watt Pin Based CFL Magnetic Ballast	0.0300
24 Watt Pin Based CFL Magnetic Ballast	0.0313
25 Watt Pin Based CFL Magnetic Ballast	0.0327
26 Watt Pin Based CFL Magnetic Ballast	0.0340
27 Watt Pin Based CFL Magnetic Ballast	0.0353
28 Watt Pin Based CFL Magnetic Ballast	0.0366
29 Watt Pin Based CFL Magnetic Ballast	0.0379
30 Watt Pin Based CFL Magnetic Ballast	0.0392
31 Watt Pin Based CFL Magnetic Ballast	0.0405
32 Watt Pin Based CFL Magnetic Ballast	0.0418
33 Watt Pin Based CFL Magnetic Ballast	0.0431

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
34 Watt Pin Based CFL Magnetic Ballast	0.0444
35 Watt Pin Based CFL Magnetic Ballast	0.0457
36 Watt Pin Based CFL Magnetic Ballast	0.0470
37 Watt Pin Based CFL Magnetic Ballast	0.0483
38 Watt Pin Based CFL Magnetic Ballast	0.0496
39 Watt Pin Based CFL Magnetic Ballast	0.0509
40 Watt Pin Based CFL Magnetic Ballast	0.0522
41 Watt Pin Based CFL Magnetic Ballast	0.0535
42 Watt Pin Based CFL Magnetic Ballast	0.0549
43 Watt Pin Based CFL Magnetic Ballast	0.0562
44 Watt Pin Based CFL Magnetic Ballast	0.0575
45 Watt Pin Based CFL Magnetic Ballast	0.0588
46 Watt Pin Based CFL Magnetic Ballast	0.0601
47 Watt Pin Based CFL Magnetic Ballast	0.0614
48 Watt Pin Based CFL Magnetic Ballast	0.0627
49 Watt Pin Based CFL Magnetic Ballast	0.0640
50 Watt Pin Based CFL Magnetic Ballast	0.0653
51 Watt Pin Based CFL Magnetic Ballast	0.0666
52 Watt Pin Based CFL Magnetic Ballast	0.0679
53 Watt Pin Based CFL Magnetic Ballast	0.0692
54 Watt Pin Based CFL Magnetic Ballast	0.0705
55 Watt Pin Based CFL Magnetic Ballast	0.0718
56 Watt Pin Based CFL Magnetic Ballast	0.0731
57 Watt Pin Based CFL Magnetic Ballast	0.0744
58 Watt Pin Based CFL Magnetic Ballast	0.0757
59 Watt Pin Based CFL Magnetic Ballast	0.0771
60 Watt Pin Based CFL Magnetic Ballast	0.0784
61 Watt Pin Based CFL Magnetic Ballast	0.0797
62 Watt Pin Based CFL Magnetic Ballast	0.0810

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
63 Watt Pin Based CFL Magnetic Ballast	0.0823
64 Watt Pin Based CFL Magnetic Ballast	0.0836
65 Watt Pin Based CFL Magnetic Ballast	0.0849
66 Watt Pin Based CFL Magnetic Ballast	0.0862
67 Watt Pin Based CFL Magnetic Ballast	0.0875
68 Watt Pin Based CFL Magnetic Ballast	0.0888
69 Watt Pin Based CFL Magnetic Ballast	0.0901
70 Watt Pin Based CFL Magnetic Ballast	0.0914
71 Watt Pin Based CFL Magnetic Ballast	0.0927
72 Watt Pin Based CFL Magnetic Ballast	0.0940
73 Watt Pin Based CFL Magnetic Ballast	0.0953
74 Watt Pin Based CFL Magnetic Ballast	0.0966
75 Watt Pin Based CFL Magnetic Ballast	0.0980
76 Watt Pin Based CFL Magnetic Ballast	0.0993
77 Watt Pin Based CFL Magnetic Ballast	0.1006
78 Watt Pin Based CFL Magnetic Ballast	0.1019
79 Watt Pin Based CFL Magnetic Ballast	0.1032
80 Watt Pin Based CFL Magnetic Ballast	0.1045
81 Watt Pin Based CFL Magnetic Ballast	0.1058
82 Watt Pin Based CFL Magnetic Ballast	0.1071
83 Watt Pin Based CFL Magnetic Ballast	0.1084
84 Watt Pin Based CFL Magnetic Ballast	0.1097
85 Watt Pin Based CFL Magnetic Ballast	0.1110
86 Watt Pin Based CFL Magnetic Ballast	0.1123
87 Watt Pin Based CFL Magnetic Ballast	0.1136
88 Watt Pin Based CFL Magnetic Ballast	0.1149
89 Watt Pin Based CFL Magnetic Ballast	0.1162
90 Watt Pin Based CFL Magnetic Ballast	0.1175
91 Watt Pin Based CFL Magnetic Ballast	0.1188

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
92 Watt Pin Based CFL Magnetic Ballast	0.1202
93 Watt Pin Based CFL Magnetic Ballast	0.1215
94 Watt Pin Based CFL Magnetic Ballast	0.1228
95 Watt Pin Based CFL Magnetic Ballast	0.1241
96 Watt Pin Based CFL Magnetic Ballast	0.1254
97 Watt Pin Based CFL Magnetic Ballast	0.1267
98 Watt Pin Based CFL Magnetic Ballast	0.1280
99 Watt Pin Based CFL Magnetic Ballast	0.1293
100 Watt Pin Based CFL Magnetic Ballast	0.1306
1 Watt Pin Based CFL Electronic Ballast	0.0011
2 Watt Pin Based CFL Electronic Ballast	0.0021
3 Watt Pin Based CFL Electronic Ballast	0.0032
4 Watt Pin Based CFL Electronic Ballast	0.0042
5 Watt Pin Based CFL Electronic Ballast	0.0053
6 Watt Pin Based CFL Electronic Ballast	0.0063
7 Watt Pin Based CFL Electronic Ballast	0.0074
8 Watt Pin Based CFL Electronic Ballast	0.0085
9 Watt Pin Based CFL Electronic Ballast	0.0095
10 Watt Pin Based CFL Electronic Ballast	0.0106
11 Watt Pin Based CFL Electronic Ballast	0.0116
12 Watt Pin Based CFL Electronic Ballast	0.0127
13 Watt Pin Based CFL Electronic Ballast	0.0138
14 Watt Pin Based CFL Electronic Ballast	0.0148
15 Watt Pin Based CFL Electronic Ballast	0.0159
16 Watt Pin Based CFL Electronic Ballast	0.0169
17 Watt Pin Based CFL Electronic Ballast	0.0180
18 Watt Pin Based CFL Electronic Ballast	0.0190
19 Watt Pin Based CFL Electronic Ballast	0.0201
20 Watt Pin Based CFL Electronic Ballast	0.0212

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
21 Watt Pin Based CFL Electronic Ballast	0.0222
22 Watt Pin Based CFL Electronic Ballast	0.0233
23 Watt Pin Based CFL Electronic Ballast	0.0243
24 Watt Pin Based CFL Electronic Ballast	0.0254
25 Watt Pin Based CFL Electronic Ballast	0.0265
26 Watt Pin Based CFL Electronic Ballast	0.0275
27 Watt Pin Based CFL Electronic Ballast	0.0286
28 Watt Pin Based CFL Electronic Ballast	0.0296
29 Watt Pin Based CFL Electronic Ballast	0.0307
30 Watt Pin Based CFL Electronic Ballast	0.0317
31 Watt Pin Based CFL Electronic Ballast	0.0328
32 Watt Pin Based CFL Electronic Ballast	0.0339
33 Watt Pin Based CFL Electronic Ballast	0.0349
34 Watt Pin Based CFL Electronic Ballast	0.0360
35 Watt Pin Based CFL Electronic Ballast	0.0370
36 Watt Pin Based CFL Electronic Ballast	0.0381
37 Watt Pin Based CFL Electronic Ballast	0.0391
38 Watt Pin Based CFL Electronic Ballast	0.0402
39 Watt Pin Based CFL Electronic Ballast	0.0413
40 Watt Pin Based CFL Electronic Ballast	0.0423
41 Watt Pin Based CFL Electronic Ballast	0.0434
42 Watt Pin Based CFL Electronic Ballast	0.0444
43 Watt Pin Based CFL Electronic Ballast	0.0455
44 Watt Pin Based CFL Electronic Ballast	0.0466
45 Watt Pin Based CFL Electronic Ballast	0.0476
46 Watt Pin Based CFL Electronic Ballast	0.0487
47 Watt Pin Based CFL Electronic Ballast	0.0497
48 Watt Pin Based CFL Electronic Ballast	0.0508
49 Watt Pin Based CFL Electronic Ballast	0.0518

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
50 Watt Pin Based CFL Electronic Ballast	0.0529
51 Watt Pin Based CFL Electronic Ballast	0.0540
52 Watt Pin Based CFL Electronic Ballast	0.0550
53 Watt Pin Based CFL Electronic Ballast	0.0561
54 Watt Pin Based CFL Electronic Ballast	0.0571
55 Watt Pin Based CFL Electronic Ballast	0.0582
56 Watt Pin Based CFL Electronic Ballast	0.0592
57 Watt Pin Based CFL Electronic Ballast	0.0603
58 Watt Pin Based CFL Electronic Ballast	0.0614
59 Watt Pin Based CFL Electronic Ballast	0.0624
60 Watt Pin Based CFL Electronic Ballast	0.0635
61 Watt Pin Based CFL Electronic Ballast	0.0645
62 Watt Pin Based CFL Electronic Ballast	0.0656
63 Watt Pin Based CFL Electronic Ballast	0.0667
64 Watt Pin Based CFL Electronic Ballast	0.0677
65 Watt Pin Based CFL Electronic Ballast	0.0688
66 Watt Pin Based CFL Electronic Ballast	0.0698
67 Watt Pin Based CFL Electronic Ballast	0.0709
68 Watt Pin Based CFL Electronic Ballast	0.0719
69 Watt Pin Based CFL Electronic Ballast	0.0730
70 Watt Pin Based CFL Electronic Ballast	0.0741
71 Watt Pin Based CFL Electronic Ballast	0.0751
72 Watt Pin Based CFL Electronic Ballast	0.0762
73 Watt Pin Based CFL Electronic Ballast	0.0772
74 Watt Pin Based CFL Electronic Ballast	0.0783
75 Watt Pin Based CFL Electronic Ballast	0.0794
76 Watt Pin Based CFL Electronic Ballast	0.0804
77 Watt Pin Based CFL Electronic Ballast	0.0815
78 Watt Pin Based CFL Electronic Ballast	0.0825

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
79 Watt Pin Based CFL Electronic Ballast	0.0836
80 Watt Pin Based CFL Electronic Ballast	0.0846
81 Watt Pin Based CFL Electronic Ballast	0.0857
82 Watt Pin Based CFL Electronic Ballast	0.0868
83 Watt Pin Based CFL Electronic Ballast	0.0878
84 Watt Pin Based CFL Electronic Ballast	0.0889
85 Watt Pin Based CFL Electronic Ballast	0.0899
86 Watt Pin Based CFL Electronic Ballast	0.0910
87 Watt Pin Based CFL Electronic Ballast	0.0920
88 Watt Pin Based CFL Electronic Ballast	0.0931
89 Watt Pin Based CFL Electronic Ballast	0.0942
90 Watt Pin Based CFL Electronic Ballast	0.0952
91 Watt Pin Based CFL Electronic Ballast	0.0963
92 Watt Pin Based CFL Electronic Ballast	0.0973
93 Watt Pin Based CFL Electronic Ballast	0.0984
94 Watt Pin Based CFL Electronic Ballast	0.0995
95 Watt Pin Based CFL Electronic Ballast	0.1005
96 Watt Pin Based CFL Electronic Ballast	0.1016
97 Watt Pin Based CFL Electronic Ballast	0.1026
98 Watt Pin Based CFL Electronic Ballast	0.1037
99 Watt Pin Based CFL Electronic Ballast	0.1047
100 Watt Pin Based CFL Electronic Ballast	0.1058
1 Watt LED Lamp	0.0010
2 Watt Interior LED Lamp	0.0020
3 Watt Interior LED Lamp	0.0030
4 Watt Interior LED Lamp	0.0040
5 Watt Interior LED Lamp	0.0050
6 Watt Interior LED Lamp	0.0060

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
7 Watt Interior LED Lamp	0.0070
8 Watt Interior LED Lamp	0.0080
9 Watt Interior LED Lamp	0.0090
10 Watt Interior LED Lamp	0.0100
11 Watt Interior LED Lamp	0.0110
12 Watt Interior LED Lamp	0.0120
13 Watt Interior LED Lamp	0.0130
14 Watt Interior LED Lamp	0.0140
15 Watt Interior LED Lamp	0.0150
16 Watt Interior LED Lamp	0.0160
17 Watt Interior LED Lamp	0.0170
18 Watt Interior LED Lamp	0.0180
19 Watt Interior LED Lamp	0.0190
20 Watt Interior LED Lamp	0.0200
1 Watt Interior LED Fixture	0.0010
2 Watt Interior LED Fixture	0.0020
3 Watt Interior LED Fixture	0.0030
4 Watt Interior LED Fixture	0.0040
5 Watt Interior LED Fixture	0.0050
6 Watt Interior LED Fixture	0.0060
7 Watt Interior LED Fixture	0.0070
8 Watt Interior LED Fixture	0.0080
9 Watt Interior LED Fixture	0.0090
10 Watt Interior LED Fixture	0.0100
11 Watt Interior LED Fixture	0.0110
12 Watt Interior LED Fixture	0.0120
13 Watt Interior LED Fixture	0.0130
14 Watt Interior LED Fixture	0.0140

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
15 Watt Interior LED Fixture	0.0150
16 Watt Interior LED Fixture	0.0160
17 Watt Interior LED Fixture	0.0170
18 Watt Interior LED Fixture	0.0180
19 Watt Interior LED Fixture	0.0190
20 Watt Interior LED Fixture	0.0200
21 Watt Interior LED Fixture	0.0210
22 Watt Interior LED Fixture	0.0220
23 Watt Interior LED Fixture	0.0230
24 Watt Interior LED Fixture	0.0240
25 Watt Interior LED Fixture	0.0250
26 Watt Interior LED Fixture	0.0260
27 Watt Interior LED Fixture	0.0270
28 Watt Interior LED Fixture	0.0280
29 Watt Interior LED Fixture	0.0290
30 Watt Interior LED Fixture	0.0300
31 Watt Interior LED Fixture	0.0310
32 Watt Interior LED Fixture	0.0320
33 Watt Interior LED Fixture	0.0330
34 Watt Interior LED Fixture	0.0340
35 Watt Interior LED Fixture	0.0350
36 Watt Interior LED Fixture	0.0360
37 Watt Interior LED Fixture	0.0370
38 Watt Interior LED Fixture	0.0380
39 Watt Interior LED Fixture	0.0390
40 Watt Interior LED Fixture	0.0400
41 Watt Interior LED Fixture	0.0410
42 Watt Interior LED Fixture	0.0420
43 Watt Interior LED Fixture	0.0430

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
44 Watt Interior LED Fixture	0.0440
45 Watt Interior LED Fixture	0.0450
46 Watt Interior LED Fixture	0.0460
47 Watt Interior LED Fixture	0.0470
48 Watt Interior LED Fixture	0.0480
49 Watt Interior LED Fixture	0.0490
50 Watt Interior LED Fixture	0.0500
15 Watt Refrigerated Case LED Strip	0.0150
16 Watt Refrigerated Case LED Strip	0.0160
17 Watt Refrigerated Case LED Strip	0.0170
18 Watt Refrigerated Case LED Strip	0.0180
19 Watt Refrigerated Case LED Strip	0.0190
20 Watt Refrigerated Case LED Strip	0.0200
21 Watt Refrigerated Case LED Strip	0.0210
22 Watt Refrigerated Case LED Strip	0.0220
23 Watt Refrigerated Case LED Strip	0.0230
24 Watt Refrigerated Case LED Strip	0.0240
25 Watt Refrigerated Case LED Strip	0.0250
26 Watt Refrigerated Case LED Strip	0.0260
27 Watt Refrigerated Case LED Strip	0.0270
28 Watt Refrigerated Case LED Strip	0.0280
29 Watt Refrigerated Case LED Strip	0.0290
30 Watt Refrigerated Case LED Strip	0.0300
31 Watt Refrigerated Case LED Strip	0.0310
32 Watt Refrigerated Case LED Strip	0.0320
33 Watt Refrigerated Case LED Strip	0.0330
34 Watt Refrigerated Case LED Strip	0.0340
35 Watt Refrigerated Case LED Strip	0.0350

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
36 Watt Refrigerated Case LED Strip	0.0360
37 Watt Refrigerated Case LED Strip	0.0370
38 Watt Refrigerated Case LED Strip	0.0380
39 Watt Refrigerated Case LED Strip	0.0390
40 Watt Refrigerated Case LED Strip	0.0400
41 Watt Refrigerated Case LED Strip	0.0410
42 Watt Refrigerated Case LED Strip	0.0420
43 Watt Refrigerated Case LED Strip	0.0430
44 Watt Refrigerated Case LED Strip	0.0440
45 Watt Refrigerated Case LED Strip	0.0450
46 Watt Refrigerated Case LED Strip	0.0460
47 Watt Refrigerated Case LED Strip	0.0470
48 Watt Refrigerated Case LED Strip	0.0480
49 Watt Refrigerated Case LED Strip	0.0490
50 Watt Refrigerated Case LED Strip	0.0500
(1) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0196
(1) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0133
(1) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0150
(1) F20T12 24" 20W Lamp	0.0206
(1) F28T5 lamp with -1.0 ballast factor electronic ballast	0.0320
(1) F30T12 36" 30W lamps, electronic ballast	0.0300
(1) F30T12 36" 30W lamps, energy saving magnetic ballast	0.0397
(1) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0288
(1) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0195
(1) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0220
(1) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0368
(1) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0250
(1) F32T8 48" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0288
(1) F32T8 48" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0195

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
(1) F32T8 48" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0220
(1) F32T8 48" 28W Lamp with a high efficiency, high ballast factor electronic ballast	0.0322
(1) F32T8 48" 28W Lamp with a high efficiency, low ballast factor electronic ballast	0.0218
(1) F32T8 48" 28W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0246
(1) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0282
(1) F40T12 48" 34W lamps, electronic ballast	0.0310
(1) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0420
(1) F40T12 48" 34W lamps, magnetic ballast	0.0451
(1) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast	0.0620
(1) F96T12ES 8' 60W lamp, electronic ballast	0.0670
(1) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.0740
(1) T12 40W Lamp with Electronic Ballast	0.0380
(1) T12 40W Lamp with ES Magnetic Ballast	0.0406
(1) T12 40W Lamp with Magnetic Ballast	0.0510
(1) T12 8 foot 110W Lamp with Electronic ballast	0.1190
(1) T12 8 foot 110W Lamp with ES Magnetic ballast	0.1206
(1) T12 8 foot 75W Lamp with Electronic ballast	0.0840
(1) T12 8 foot 75W Lamp with magnetic ballast	0.0941
(1) T12 8 foot 95W Lamp with Magnetic ballast	0.1250
(10) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.5850
(12) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts,, high bay	0.4416
(12) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballasts,, high bay	0.2995
(12) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts,, high bay	0.3379
(14) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.5152
(14) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballasts,, high bay	0.3494
(14) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.3942
(16) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.5888
(16) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballasts, high bay	0.3994
(16) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.4506

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
(18) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.6624
(18) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballasts, high bay	0.4493
(18) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.5069
(2) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0391
(2) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0265
(2) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0299
(2) F20T12 24" 20W Lamp	0.0534
(2) F28T5 lamps with --1.0 ballast factor electronic ballast	0.0630
(2) F30T12 36" 30W lamps, electronic ballast	0.0600
(2) F30T12 36" 30W lamps, energy saving magnetic ballast	0.0750
(2) F32T8 36" 25W Lamps with a high efficiency, high ballast factor electronic ballast	0.0575
(2) F32T8 36" 25W Lamps with a high efficiency, low ballast factor electronic ballast	0.0390
(2) F32T8 36" 25W Lamps with a high efficiency, normal ballast factor electronic ballast	0.0440
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0736
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0499
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0563
(2) F32T8 48" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0575
(2) F32T8 48" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0390
(2) F32T8 48" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0440
(2) F32T8 48" 28W Lamp with a high efficiency, high ballast factor electronic ballast	0.0644
(2) F32T8 48" 28W Lamp with a high efficiency, low ballast factor electronic ballast	0.0437
(2) F32T8 48" 28W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0493
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.0736
(2) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast-PG	0.0736
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0499
(2) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast-PG	0.0499
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0563
(2) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast-PG	0.0563
(2) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast	0.0736

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
(2) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0499
(2) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballast	0.0563
(2) F32T8 48" 32W Lamps with a standard efficiency, high ballast factor electronic ballast	0.0756
(2) F32T8 48" 32W Lamps with a standard efficiency, low ballast factor electronic ballast	0.0519
(2) F32T8 48" 32W Lamps with a standard efficiency, normal ballast factor electronic ballast	0.0586
(2) F40T12 48" 34W lamps, electronic ballast	0.0600
(2) F40T12 48" 34W lamps, energy saving magnetic ballast	0.0670
(2) F40T12 48" 34W lamps, magnetic ballast	0.0842
(2) F40T12 48" 34W U Bend lamps, electronic ballast	0.0600
(2) F40T12 48" 34W U Bend lamps, energy saving magnetic ballast	0.0670
(2) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast-PG	0.1170
(2) F54T5/HO 45.8" lamps with a -1.0 ballast factor electronic ballast	0.1170
(2) F54T5/HO 45.8" lamps with a -1.0 ballast factor electronic ballast, high bay	0.1170
(2) F96T12ES 8' 60W lamp, electronic ballast	0.1050
(2) F96T12ES 8' 60W lamp, energy savings magnetic ballast	0.1130
(2) T12 40W Lamp with Electronic Ballast	0.0710
(2) T12 40W Lamp with ES Magnetic Ballast	0.0865
(2) T12 40W Lamp with Magnetic Ballast	0.0970
(2) T12 40W U Bend Lamp with Electronic Ballast	0.0710
(2) T12 40W U Bend Lamp with Magnetic Ballast	0.0970
(2) T12 8 foot 110W Lamp with Electronic ballast	0.2050
(2) T12 8 foot 110W Lamp with ES Magnetic ballast	0.2376
(2) T12 8 foot 75W Lamp with Electronic ballast	0.1330
(2) T12 8 foot 75W Lamp with energy saving magnetic ballast	0.1450
(2) T12 8 foot 75W Lamp with magnetic ballast	0.1450
(2) T12 8 foot 95W Lamp with Electronic ballast	0.1700
(2) T12 8 foot 95W Lamp with Magnetic ballast	0.2160
(20) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.7360
(20) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballasts, high bay	0.4992

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
(20) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.5632
(3) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0587
(3) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0398
(3) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0449
(3) F20T12 24" 20W Lamp	0.0640
(3) F28T5 lamps with -1.0 ballast factor electronic ballast	0.095
(3) F30T12 36" 30W lamps, electronic ballast	0.0900
(3) F30T12 36" 30W lamps, energy saving magnetic ballast	0.1130
(3) F32T8 36" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0860
(3) F32T8 36" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0630
(3) F32T8 36" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0720
(3) F32T8 48" 32W Lamp with a high efficiency, high ballast factor electronic ballast	0.1104
(3) F32T8 48" 32W Lamp with a high efficiency, low ballast factor electronic ballast	0.0749
(3) F32T8 48" 32W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0845
(3) F32T8 48" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.0863
(3) F32T8 48" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0585
(3) F32T8 48" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0660
(3) F32T8 48" 28W Lamp with a high efficiency, high ballast factor electronic ballast	0.0966
(3) F32T8 48" 28W Lamp with a high efficiency, low ballast factor electronic ballast	0.0655
(3) F32T8 48" 28W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0739
(3) F32T8 48" 32W Lamps with a standard efficiency, high ballast factor electronic ballast	0.1148
(3) F32T8 48" 32W Lamps with a standard efficiency, low ballast factor electronic ballast	0.0779
(3) F32T8 48" 32W Lamps with a standard efficiency, normal ballast factor electronic ballast	0.0879
(3) F40T12 48" 34W lamps, electronic ballast	0.0910
(3) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1040
(3) F40T12 48" 34W lamps, magnetic ballast	0.1270
(3) F54T5/HO 45.8" Lamp with a -1.0 ballast factor electronic ballast-PG	0.1790
(3) F54T5/HO 45.8" lamps with a -1.0 ballast factor electronic ballast	0.1790
(3) F54T5/HO 45.8" lamps with a -1.0 ballast factor electronic ballast, high bay	0.1790

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
(3) Fluorescent, 48" T-8 lamps, VHLO Ballasts (84 Watts) 1.0 Ballast Factor	0.2790
(3) T12 40W Lamp with Electronic Ballast	0.1070
(3) T12 40W Lamp with ES Magnetic Ballast	0.1410
(3) T12 40W Lamp with Magnetic Ballast	0.1350
(4) F17T8 24" 17W Lamp with a high efficiency, high ballast factor electronic ballast	0.0782
(4) F17T8 24" 17W Lamp with a high efficiency, low ballast factor electronic ballast	0.0530
(4) F17T8 24" 17W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0598
(4) F20T12 24" 20W Lamp	0.0910
(4) F28T5 lamps with -1.0 ballast factor electronic ballast	0.126
(4) F30T12 36" 30W lamps, energy saving magnetic ballast	0.1380
(4) F32T8 36" 25W Lamps with a high efficiency, high ballast factor electronic ballast	0.1110
(4) F32T8 36" 25W Lamps with a high efficiency, low ballast factor electronic ballast	0.0850
(4) F32T8 36" 25W Lamps with a high efficiency, normal ballast factor electronic ballast	0.0740
(4) F32T8 48" 25W Lamp with a high efficiency, high ballast factor electronic ballast	0.1150
(4) F32T8 48" 25W Lamp with a high efficiency, low ballast factor electronic ballast	0.0780
(4) F32T8 48" 25W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0880
(4) F32T8 48" 28W Lamp with a high efficiency, high ballast factor electronic ballast	0.1288
(4) F32T8 48" 28W Lamp with a high efficiency, low ballast factor electronic ballast	0.0874
(4) F32T8 48" 28W Lamp with a high efficiency, normal ballast factor electronic ballast	0.0986
(4) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballast	0.1472
(4) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.1472
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballast	0.0998
(4) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballasts, high bay	0.0998
(4) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballast	0.1126
(4) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.1126
(4) F32T8 48" 32W Lamps with a standard efficiency, high ballast factor electronic ballast	0.1531
(4) F32T8 48" 32W Lamps with a standard efficiency, low ballast factor electronic ballast	0.1038
(4) F32T8 48" 32W Lamps with a standard efficiency, normal ballast factor electronic ballast	0.1171
(4) F40T12 48" 34W lamps, electronic ballast	0.1190

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
(4) F40T12 48" 34W lamps, energy saving magnetic ballast	0.1440
(4) F40T12 48" 34W lamps, magnetic ballast	0.1560
(4) F54T5/HO 45.8" lamps with a -1.0 ballast factor electronic ballast, high bay	0.2340
(4) T12 40W Lamp with Electronic Ballast	0.1340
(4) T12 40W Lamp with ES Magnetic Ballast	0.1720
(4) T12 40W Lamp with Magnetic Ballast	0.1750
(5) F54T5/HO 45.8" lamps with a -1.0 ballast factor electronic ballast, high bay	0.2950
(5) Fluorescent, 48" T-8 Lamp, VHLO Ballasts (84 watt) 1.0 Ballast Factor	0.4650
(6) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.2208
(6) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballasts, high bay	0.1498
(6) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.1690
(6) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.3580
(6) Fluorescent, 48" T-8 lamps, VHLO Ballasts 1.0 Ballast Factor	0.5550
(8) F32T8 48" 32W Lamps with a high efficiency, high ballast factor electronic ballasts, high bay	0.2944
(8) F32T8 48" 32W Lamps with a high efficiency, low ballast factor electronic ballasts, high bay	0.1997
(8) F32T8 48" 32W Lamps with a high efficiency, normal ballast factor electronic ballasts, high bay	0.2253
(8) F54T5/HO 45.8" lamps with a --1.0 ballast factor electronic ballast, high bay	0.4680
(8) Fluorescent, 48" T-8 lamps, VHLO Ballasts (84 Watt Lamps)	0.7930
0.25W LEC Exit Sign	0.0003
1 Watt Pin Based CFL Electronic Ballast	0.0011
1 Watt Pin Based CFL Magnetic Ballast	0.0013
1 Watt Screw In CFL Integral Ballast	0.0010
1 Watt Interior LED lamp	0.0010
10 Watt Pin Based CFL Electronic Ballast	0.0106
10 Watt Pin Based CFL Magnetic Ballast	0.0131
10 Watt Screw In CFL Integral Ballast	0.0100
10 Watts Incandescent Lamp	0.0100
10 Watt Interior LED Fixture	0.0100
10 Watt Interior LED lamp	0.0100

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
100 Watt Pin Based CFL Electronic Ballast	0.1058
100 Watt Pin Based CFL Magnetic Ballast	0.1306
100 Watt Exterior Canopy or Soffit MH Fixture	0.1250
100 Watt Exterior Canopy or Soffit PSMH Fixture	0.1280
100 Watt Incandescent Fixture	0.1000
100 Watts Incandescent Lamp	0.1000
100 Watt Exterior Canopy or Soffit LED Fixture	0.1000
1000W Metal Halide, magnetic ballast	1.0800
1000W Pulse Start Metal Halide, magnetic ballast	1.0800
100W High Pressure Sodium	0.1300
100W Metal Halide, magnetic ballast	0.1300
100W Pulse Start Metal Halide, energy saving magnetic ballast	0.1180
100W Pulse Start Metal Halide, magnetic ballast	0.1280
101 Watt Exterior Canopy or Soffit LED Fixture	0.1010
102 Watt Exterior Canopy or Soffit LED Fixture	0.1020
103 Watt Exterior Canopy or Soffit LED Fixture	0.1030
104 Watt Exterior Canopy or Soffit LED Fixture	0.1040
105 Watt Incandescent Fixture	0.1050
105 Watts Incandescent Lamp	0.1050
105 Watt Exterior Canopy or Soffit LED Fixture	0.1050
106 Watt Exterior Canopy or Soffit LED Fixture	0.1060
107 Watt Exterior Canopy or Soffit LED Fixture	0.1070
108 Watt Exterior Canopy or Soffit LED Fixture	0.1080
109 Watt Exterior Canopy or Soffit LED Fixture	0.1090
11 Watt Pin Based CFL Electronic Ballast	0.0116
11 Watt Pin Based CFL Magnetic Ballast	0.0144
11 Watt Screw In CFL Integral Ballast	0.0110
11 Watt Interior LED Fixture	0.0110
11 Watt Interior LED lamp	0.0110

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
110 Watt Incandescent Fixture	0.1100
110 Watts Incandescent Lamp	0.1100
110 Watt Exterior Canopy or Soffit LED Fixture	0.1100
111 Watt Exterior Canopy or Soffit LED Fixture	0.1110
112 Watt Exterior Canopy or Soffit LED Fixture	0.1120
113 Watt Exterior Canopy or Soffit LED Fixture	0.1130
114 Watt Exterior Canopy or Soffit LED Fixture	0.1140
115 Watt Incandescent Fixture	0.1150
115 Watts Incandescent Lamp	0.1150
115 Watt Exterior Canopy or Soffit LED Fixture	0.1150
116 Watt Exterior Canopy or Soffit LED Fixture	0.1160
117 Watt Exterior Canopy or Soffit LED Fixture	0.1170
118 Watt Exterior Canopy or Soffit LED Fixture	0.1180
119 Watt Exterior Canopy or Soffit LED Fixture	0.1190
12 Watt Pin Based CFL Electronic Ballast	0.0127
12 Watt Pin Based CFL Magnetic Ballast	0.0157
12 Watt Screw In CFL Integral Ballast	0.0120
12 Watt Interior LED Fixture	0.0120
12 Watt Interior LED lamp	0.0120
120 Watt Incandescent Fixture	0.1200
120 Watts Incandescent Lamp	0.1200
120 Watt Exterior Canopy or Soffit LED Fixture	0.1200
121 Watt Exterior Canopy or Soffit LED Fixture	0.1210
122 Watt Exterior Canopy or Soffit LED Fixture	0.1220
123 Watt Exterior Canopy or Soffit LED Fixture	0.1230
124 Watt Exterior Canopy or Soffit LED Fixture	0.1240
125 Watt Exterior Canopy or Soffit PSMH Fixture	0.1500
125 Watt Incandescent Fixture	0.1250
125 Watts Incandescent Lamp	0.1250

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
125 Watt Exterior Canopy or Soffit LED Fixture	0.1250
125W Pulse Start Metal Halide, energy saving magnetic ballast	0.1410
125W Pulse Start Metal Halide, magnetic ballast	0.1500
126 Watt Exterior Canopy or Soffit LED Fixture	0.1260
127 Watt Exterior Canopy or Soffit LED Fixture	0.1270
128 Watt Exterior Canopy or Soffit LED Fixture	0.1280
129 Watt Exterior Canopy or Soffit LED Fixture	0.1290
13 Watt Pin Based CFL Electronic Ballast	0.0138
13 Watt Pin Based CFL Magnetic Ballast	0.0170
13 Watt Screw In CFL Integral Ballast	0.0130
13 Watt Interior LED Fixture	0.0130
13 Watt Interior LED lamp	0.0130
130 Watt Incandescent Fixture	0.1300
130 Watts Incandescent Lamp	0.1300
130 Watt Exterior Canopy or Soffit LED Fixture	0.1300
131 Watt Exterior Canopy or Soffit LED Fixture	0.1310
132 Watt Exterior Canopy or Soffit LED Fixture	0.1320
133 Watt Exterior Canopy or Soffit LED Fixture	0.1330
134 Watt Exterior Canopy or Soffit LED Fixture	0.1340
135 Watt Incandescent Fixture	0.1350
135 Watts Incandescent Lamp	0.1350
135 Watt Exterior Canopy or Soffit LED Fixture	0.1350
136 Watt Exterior Canopy or Soffit LED Fixture	0.1360
137 Watt Exterior Canopy or Soffit LED Fixture	0.1370
138 Watt Exterior Canopy or Soffit LED Fixture	0.1380
139 Watt Exterior Canopy or Soffit LED Fixture	0.1390
14 Watt Pin Based CFL Electronic Ballast	0.0148
14 Watt Pin Based CFL Magnetic Ballast	0.0183
14 Watt Screw In CFL Integral Ballast	0.0140

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
14 Watt Interior LED Fixture	0.0140
14 Watt Interior LED lamp	0.0140
140 Watt Incandescent Fixture	0.1400
140 Watts Incandescent Lamp	0.1400
140 Watt Exterior Canopy or Soffit LED Fixture	0.1400
141 Watt Exterior Canopy or Soffit LED Fixture	0.1410
142 Watt Exterior Canopy or Soffit LED Fixture	0.1420
143 Watt Exterior Canopy or Soffit LED Fixture	0.1430
144 Watt Exterior Canopy or Soffit LED Fixture	0.1440
145 Watt Incandescent Fixture	0.1450
145 Watts Incandescent Lamp	0.1450
145 Watt Exterior Canopy or Soffit LED Fixture	0.1450
146 Watt Exterior Canopy or Soffit LED Fixture	0.1460
147 Watt Exterior Canopy or Soffit LED Fixture	0.1470
148 Watt Exterior Canopy or Soffit LED Fixture	0.1480
149 Watt Exterior Canopy or Soffit LED Fixture	0.1490
15 Watt Pin Based CFL Electronic Ballast	0.0159
15 Watt Pin Based CFL Magnetic Ballast	0.0196
15 Watt Screw In CFL Integral Ballast	0.0150
15 Watts Incandescent Lamp	0.0150
15 Watt Interior LED Fixture	0.0150
15 Watt Interior LED lamp	0.0150
15 Watt Refrigerated Case LED Strip	0.0150
150 Watt Exterior Canopy or Soffit MH Fixture	0.1850
150 Watt Exterior Canopy or Soffit PSMH Fixture	0.1890
150 Watt Incandescent Fixture	0.1500
150 Watts Incandescent Lamp	0.1500
150 Watt Exterior Canopy or Soffit LED Fixture	0.1500
1500W Metal Halide, magnetic ballast	1.6100

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
150W Metal Halide, magnetic ballast	0.1850
150W Pulse Start Metal Halide, energy saving magnetic ballast	0.1730
150W Pulse Start Metal Halide, magnetic ballast	0.1890
155 Watt Incandescent Fixture	0.1550
155 Watts Incandescent Lamp	0.1550
16 Watt Pin Based CFL Electronic Ballast	0.0169
16 Watt Pin Based CFL Magnetic Ballast	0.0209
16 Watt Screw In CFL Integral Ballast	0.0160
16 Watt Interior LED Fixture	0.0160
16 Watt Interior LED lamp	0.0160
16 Watt Refrigerated Case LED Strip	0.0160
160 Watt Incandescent Fixture	0.1600
160 Watts Incandescent Lamp	0.1600
165 Watt Incandescent Fixture	0.1600
165 Watts Incandescent Lamp	0.1650
17 Watt Pin Based CFL Electronic Ballast	0.0180
17 Watt Pin Based CFL Magnetic Ballast	0.0222
17 Watt Screw In CFL Integral Ballast	0.0170
17 Watt Interior LED Fixture	0.0170
17 Watt Interior LED lamp	0.0170
17 Watt Refrigerated Case LED Strip	0.0170
170 Watt Incandescent Fixture	0.1700
170 Watts Incandescent Lamp	0.1700
175 Watt Exterior Canopy or Soffit MH Fixture	0.2100
175 Watt Exterior Canopy or Soffit PSMH Fixture	0.2080
175 Watt Incandescent Fixture	0.1750
175 Watts Incandescent Lamp	0.1750
175W Metal Halide, magnetic ballast	0.2100
175W Pulse Start Metal Halide, energy saving magnetic ballast	0.1890

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
175W Pulse Start Metal Halide, magnetic ballast	0.2080
18 Watt Pin Based CFL Electronic Ballast	0.0190
18 Watt Pin Based CFL Magnetic Ballast	0.0235
18 Watt Screw In CFL Integral Ballast	0.0180
18 Watt Interior LED Fixture	0.0180
18 Watt Interior LED lamp	0.0180
18 Watt Refrigerated Case LED Strip	0.0180
180 Watt Incandescent Fixture	0.1800
180 Watts Incandescent Lamp	0.1800
185 Watt Incandescent Fixture	0.1850
185 Watts Incandescent Lamp	0.1850
19 Watt Pin Based CFL Electronic Ballast	0.0201
19 Watt Pin Based CFL Magnetic Ballast	0.0248
19 Watt Screw In CFL Integral Ballast	0.0190
19 Watt Interior LED Fixture	0.0190
19 Watt Interior LED lamp	0.0190
19 Watt Refrigerated Case LED Strip	0.0190
190 Watt Incandescent Fixture	0.1900
190 Watts Incandescent Lamp	0.1900
195 Watt Incandescent Fixture	0.1950
195 Watts Incandescent Lamp	0.1950
2 Watt Pin Based CFL Electronic Ballast	0.0021
2 Watt Pin Based CFL Magnetic Ballast	0.0026
2 Watt Screw In CFL Integral Ballast	0.0020
2 Watt Interior LED lamp	0.0020
20 Watt Pin Based CFL Electronic Ballast	0.0212
20 Watt Pin Based CFL Magnetic Ballast	0.0261
20 Watt Screw In CFL Integral Ballast	0.0200
20 Watts Incandescent Lamp	0.0200

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
20 Watt Interior LED Fixture	0.0200
20 Watt Interior LED lamp	0.0200
20 Watt Refrigerated Case LED Strip	0.0200
200 Watt Exterior Canopy or Soffit PSMH Fixture	0.2320
200 Watt Incandescent Fixture	0.2000
200 Watts Incandescent Lamp	0.2000
200W High Pressure Sodium	0.2400
200W Incandescent	0.2000
200W Pulse Start Metal Halide, energy saving magnetic ballast	0.2180
200W Pulse Start Metal Halide, magnetic ballast	0.2320
21 Watt Pin Based CFL Electronic Ballast	0.0222
21 Watt Pin Based CFL Magnetic Ballast	0.0274
21 Watt Screw In CFL Integral Ballast	0.0210
21 Watt Interior LED Fixture	0.0210
21 Watt Refrigerated Case LED Strip	0.0210
22 Watt Pin Based CFL Electronic Ballast	0.0233
22 Watt Pin Based CFL Magnetic Ballast	0.0287
22 Watt Screw In CFL Integral Ballast	0.0220
22 Watt Interior LED Fixture	0.0220
22 Watt Refrigerated Case LED Strip	0.0220
23 Watt Pin Based CFL Electronic Ballast	0.0243
23 Watt Pin Based CFL Magnetic Ballast	0.0300
23 Watt Screw In CFL Integral Ballast	0.0230
23 Watt Interior LED Fixture	0.0230
23 Watt Refrigerated Case LED Strip	0.0230
24 Watt Pin Based CFL Electronic Ballast	0.0254
24 Watt Pin Based CFL Magnetic Ballast	0.0313
24 Watt Screw In CFL Integral Ballast	0.0240
24 Watt Interior LED Fixture	0.0240

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
24 Watt Refrigerated Case LED Strip	0.0265
25 Watt Pin Based CFL Electronic Ballast	0.0327
25 Watt Pin Based CFL Magnetic Ballast	0.0250
25 Watt Screw In CFL Integral Ballast	0.0250
25 Watt Incandescent Fixture	0.0250
25 Watts Incandescent Lamp	0.0250
25 Watt Exterior Canopy or Soffit LED Fixture	0.0250
25 Watt Interior LED Fixture	0.0250
25 Watt Refrigerated Case LED Strip	0.0250
250 Watt Exterior Canopy or Soffit MH Fixture	0.2950
250 Watt Exterior Canopy or Soffit PSMH Fixture	0.2900
250 Watt Incandescent Fixture	0.2500
250 Watts Incandescent Lamp	0.2500
250W Metal Halide, magnetic ballast	0.2950
250W Pulse Start Metal Halide, energy saving magnetic ballast	0.2720
250W Pulse Start Metal Halide, magnetic ballast	0.2900
26 Watt Pin Based CFL Electronic Ballast	0.0275
26 Watt Pin Based CFL Magnetic Ballast	0.0340
26 Watt Screw In CFL Integral Ballast	0.0260
26 Watt Exterior Canopy or Soffit LED Fixture	0.0260
26 Watt Interior LED Fixture	0.0260
26 Watt Refrigerated Case LED Strip	0.0260
27 Watt Pin Based CFL Electronic Ballast	0.0286
27 Watt Pin Based CFL Magnetic Ballast	0.0353
27 Watt Screw In CFL Integral Ballast	0.0270
27 Watt Exterior Canopy or Soffit LED Fixture	0.0270
27 Watt Interior LED Fixture	0.0270
27 Watt Refrigerated Case LED Strip	0.0270
28 Watt Pin Based CFL Electronic Ballast	0.0296

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
28 Watt Pin Based CFL Magnetic Ballast	0.0366
28 Watt Screw In CFL Integral Ballast	0.0280
28 Watt Exterior Canopy or Soffit LED Fixture	0.0280
28 Watt Interior LED Fixture	0.0280
28 Watt Refrigerated Case LED Strip	0.0280
29 Watt Pin Based CFL Electronic Ballast	0.0307
29 Watt Pin Based CFL Magnetic Ballast	0.0379
29 Watt Screw In CFL Integral Ballast	0.0290
29 Watt Exterior Canopy or Soffit LED Fixture	0.0290
29 Watt Interior LED Fixture	0.0290
29 Watt Refrigerated Case LED Strip	0.0290
2W LED Exit Sign	0.0020
3 Watt Pin Based CFL Electronic Ballast	0.0032
3 Watt Pin Based CFL Magnetic Ballast	0.0039
3 Watt Screw In CFL Integral Ballast	0.0030
3 Watts Incandescent Lamp	0.0030
3 Watt Interior LED lamp	0.0030
30 Watt Pin Based CFL Electronic Ballast	0.0317
30 Watt Pin Based CFL Magnetic Ballast	0.0392
30 Watt Screw In CFL Integral Ballast	0.0300
30 Watt Incandescent Fixture	0.0300
30 Watts Incandescent Lamp	0.0300
30 Watt Exterior Canopy or Soffit LED Fixture	0.0300
30 Watt Interior LED Fixture	0.0300
30 Watt Refrigerated Case LED Strip	0.0300
300 Watt Incandescent Fixture	0.3000
300 Watts Incandescent Lamp	0.3000
30W Incandescent Exit Sign	0.0300
31 Watt Pin Based CFL Electronic Ballast	0.0328

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
31 Watt Pin Based CFL Magnetic Ballast	0.0405
31 Watt Screw In CFL Integral Ballast	0.0310
31 Watt Exterior Canopy or Soffit LED Fixture	0.0310
31 Watt Interior LED Fixture	0.0310
31 Watt Refrigerated Case LED Strip	0.0310
32 Watt Pin Based CFL Electronic Ballast	0.0339
32 Watt Pin Based CFL Magnetic Ballast	0.0418
32 Watt Screw In CFL Integral Ballast	0.0320
32 Watt Exterior Canopy or Soffit LED Fixture	0.0320
32 Watt Interior LED Fixture	0.0320
32 Watt Refrigerated Case LED Strip	0.0320
320 Watt Exterior Canopy or Soffit PSMH Fixture	0.3700
320W Pulse Start Metal Halide, energy saving magnetic ballast	0.3420
320W Pulse Start Metal Halide, magnetic ballast	0.3700
33 Watt Pin Based CFL Electronic Ballast	0.0349
33 Watt Pin Based CFL Magnetic Ballast	0.0431
33 Watt Screw In CFL Integral Ballast	0.0330
33 Watt Exterior Canopy or Soffit LED Fixture	0.0330
33 Watt Interior LED Fixture	0.0330
33 Watt Refrigerated Case LED Strip	0.0330
34 Watt Pin Based CFL Electronic Ballast	0.0360
34 Watt Pin Based CFL Magnetic Ballast	0.0444
34 Watt Screw In CFL Integral Ballast	0.0340
34 Watt Exterior Canopy or Soffit LED Fixture	0.0340
34 Watt Interior LED Fixture	0.0340
34 Watt Refrigerated Case LED Strip	0.0340
35 Watt Pin Based CFL Electronic Ballast	0.0370
35 Watt Pin Based CFL Magnetic Ballast	0.0457
35 Watt Screw In CFL Integral Ballast	0.0350

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
35 Watt Incandescent Fixture	0.0350
35 Watts Incandescent Lamp	0.0350
35 Watt Exterior Canopy or Soffit LED Fixture	0.0350
35 Watt Interior LED Fixture	0.0350
35 Watt Refrigerated Case LED Strip	0.0350
350 Watt Exterior Canopy or Soffit PSMH Fixture	0.4100
350 Watts Incandescent Lamp	0.3500
350W Pulse Start Metal Halide, energy saving magnetic ballast	0.3750
350W Pulse Start Metal Halide, magnetic ballast	0.4100
36 Watt Pin Based CFL Electronic Ballast	0.0381
36 Watt Pin Based CFL Magnetic Ballast	0.0470
36 Watt Screw In CFL Integral Ballast	0.0360
36 Watt Exterior Canopy or Soffit LED Fixture	0.0360
36 Watt Interior LED Fixture	0.0360
36 Watt Refrigerated Case LED Strip	0.0360
37 Watt Pin Based CFL Electronic Ballast	0.0391
37 Watt Pin Based CFL Magnetic Ballast	0.0483
37 Watt Screw In CFL Integral Ballast	0.0370
37 Watt Exterior Canopy or Soffit LED Fixture	0.0370
37 Watt Interior LED Fixture	0.0370
37 Watt Refrigerated Case LED Strip	0.0370
38 Watt Pin Based CFL Electronic Ballast	0.0402
38 Watt Pin Based CFL Magnetic Ballast	0.0496
38 Watt Screw In CFL Integral Ballast	0.0380
38 Watt Exterior Canopy or Soffit LED Fixture	0.0380
38 Watt Interior LED Fixture	0.0380
38 Watt Refrigerated Case LED Strip	0.0380
39 Watt Pin Based CFL Electronic Ballast	0.0413
39 Watt Pin Based CFL Magnetic Ballast	0.0509

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
39 Watt Screw In CFL Integral Ballast	0.0390
39 Watt Exterior Canopy or Soffit LED Fixture	0.0390
39 Watt Interior LED Fixture	0.0390
39 Watt Refrigerated Case LED Strip	0.0390
4 Watt Pin Based CFL Electronic Ballast	0.0042
4 Watt Pin Based CFL Magnetic Ballast	0.0052
4 Watt Screw In CFL Integral Ballast	0.0040
4 Watts Incandescent Lamp	0.0040
4 Watt Interior LED lamp	0.0040
40 Watt Pin Based CFL Electronic Ballast	0.0423
40 Watt Pin Based CFL Magnetic Ballast	0.0522
40 Watt Screw In CFL Integral Ballast	0.0400
40 Watt Incandescent Fixture	0.0400
40 Watts Incandescent Lamp	0.0400
40 Watt Exterior Canopy or Soffit LED Fixture	0.0400
40 Watt Interior LED Fixture	0.0400
40 Watt Refrigerated Case LED Strip	0.0400
400 Watt Exterior Canopy or Soffit MH Fixture	0.4540
400 Watt Exterior Canopy or Soffit PSMH Fixture	0.4650
400 Watts Incandescent Lamp	0.4000
400W High Pressure Sodium	0.4570
400W Metal Halide, magnetic ballast	0.4560
400W Pulse Start Metal Halide, energy saving magnetic ballast	0.4250
400W Pulse Start Metal Halide, magnetic ballast	0.4650
40W Incandescent Exit Sign	0.0400
41 Watt Pin Based CFL Electronic Ballast	0.0434
41 Watt Pin Based CFL Magnetic Ballast	0.0535
41 Watt Screw In CFL Integral Ballast	0.0410
41 Watt Exterior Canopy or Soffit LED Fixture	0.0410

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
41 Watt Interior LED Fixture	0.0410
41 Watt Refrigerated Case LED Strip	0.0410
42 Watt Pin Based CFL Electronic Ballast	0.0444
42 Watt Pin Based CFL Magnetic Ballast	0.0549
42 Watt Screw In CFL Integral Ballast	0.0420
42 Watt Exterior Canopy or Soffit LED Fixture	0.0420
42 Watt Interior LED Fixture	0.0420
42 Watt Refrigerated Case LED Strip	0.0420
43 Watt Pin Based CFL Electronic Ballast	0.0455
43 Watt Pin Based CFL Magnetic Ballast	0.0562
43 Watt Screw In CFL Integral Ballast	0.0430
43 Watt Exterior Canopy or Soffit LED Fixture	0.0430
43 Watt Interior LED Fixture	0.0430
43 Watt Refrigerated Case LED Strip	0.0430
44 Watt Pin Based CFL Electronic Ballast	0.0466
44 Watt Pin Based CFL Magnetic Ballast	0.0575
44 Watt Screw In CFL Integral Ballast	0.0440
44 Watt Exterior Canopy or Soffit LED Fixture	0.0440
44 Watt Interior LED Fixture	0.0440
44 Watt Refrigerated Case LED Strip	0.0440
45 Watt Pin Based CFL Electronic Ballast	0.0476
45 Watt Pin Based CFL Magnetic Ballast	0.0588
45 Watt Screw In CFL Integral Ballast	0.0450
45 Watt Incandescent Fixture	0.0450
45 Watts Incandescent Lamp	0.0450
45 Watt Exterior Canopy or Soffit LED Fixture	0.0450
45 Watt Interior LED Fixture	0.0450
45 Watt Refrigerated Case LED Strip	0.0450
450 Watt Exterior Canopy or Soffit PSMH Fixture	0.5060

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
450W Pulse Start Metal Halide, energy saving magnetic ballast	0.4800
450W Pulse Start Metal Halide, magnetic ballast	0.5060
46 Watt Pin Based CFL Electronic Ballast	0.0487
46 Watt Pin Based CFL Magnetic Ballast	0.0601
46 Watt Screw In CFL Integral Ballast	0.0460
46 Watt Exterior Canopy or Soffit LED Fixture	0.0460
46 Watt Interior LED Fixture	0.0460
46 Watt Refrigerated Case LED Strip	0.0460
47 Watt Pin Based CFL Electronic Ballast	0.0497
47 Watt Pin Based CFL Magnetic Ballast	0.0614
47 Watt Screw In CFL Integral Ballast	0.0470
47 Watt Exterior Canopy or Soffit LED Fixture	0.0470
47 Watt Interior LED Fixture	0.0470
47 Watt Refrigerated Case LED Strip	0.0470
48 Watt Pin Based CFL Electronic Ballast	0.0508
48 Watt Pin Based CFL Magnetic Ballast	0.0627
48 Watt Screw In CFL Integral Ballast	0.0480
48 Watt Exterior Canopy or Soffit LED Fixture	0.0480
48 Watt Interior LED Fixture	0.0480
48 Watt Refrigerated Case LED Strip	0.0480
49 Watt Pin Based CFL Electronic Ballast	0.0518
49 Watt Pin Based CFL Magnetic Ballast	0.0640
49 Watt Screw In CFL Integral Ballast	0.0490
49 Watt Exterior Canopy or Soffit LED Fixture	0.0490
49 Watt Interior LED Fixture	0.0490
49 Watt Refrigerated Case LED Strip	0.0490
5 Watt Pin Based CFL Electronic Ballast	0.0053
5 Watt Pin Based CFL Magnetic Ballast	0.0065
5 Watt Screw In CFL Integral Ballast	0.0050

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
5 Watts Incandescent Lamp	0.0050
5 Watt Interior LED lamp	0.0050
50 Watt Pin Based CFL Electronic Ballast	0.0529
50 Watt Pin Based CFL Magnetic Ballast	0.0653
50 Watt Screw In CFL Integral Ballast	0.0500
50 Watt Incandescent Fixture	0.0500
50 Watts Incandescent Lamp	0.0500
50 Watt Exterior Canopy or Soffit LED Fixture	0.0500
50 Watt Interior LED Fixture	0.0500
50 Watt Refrigerated Case LED Strip	0.0500
500 Watts Incandescent Lamp	0.5000
50W Metal Halide, magnetic ballast	0.0620
50W Pulse Start Metal Halide, energy saving magnetic ballast	0.0620
50W Pulse Start Metal Halide, magnetic ballast	0.0720
51 Watt Pin Based CFL Electronic Ballast	0.0540
51 Watt Pin Based CFL Magnetic Ballast	0.0666
51 Watt Screw In CFL Integral Ballast	0.0510
51 Watt Exterior Canopy or Soffit LED Fixture	0.0510
52 Watt Pin Based CFL Electronic Ballast	0.0550
52 Watt Pin Based CFL Magnetic Ballast	0.0679
52 Watt Screw In CFL Integral Ballast	0.0520
52 Watt Exterior Canopy or Soffit LED Fixture	0.0520
53 Watt Pin Based CFL Electronic Ballast	0.0561
53 Watt Pin Based CFL Magnetic Ballast	0.0692
53 Watt Screw In CFL Integral Ballast	0.0530
53 Watt Exterior Canopy or Soffit LED Fixture	0.0530
54 Watt Pin Based CFL Electronic Ballast	0.0571
54 Watt Pin Based CFL Magnetic Ballast	0.0705
54 Watt Screw In CFL Integral Ballast	0.0540

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
54 Watt Exterior Canopy or Soffit LED Fixture	0.0540
55 Watt Pin Based CFL Electronic Ballast	0.0582
55 Watt Pin Based CFL Magnetic Ballast	0.0718
55 Watt Screw In CFL Integral Ballast	0.0550
55 Watt Incandescent Fixture	0.0550
55 Watts Incandescent Lamp	0.0550
55 Watt Exterior Canopy or Soffit LED Fixture	0.0550
56 Watt Pin Based CFL Electronic Ballast	0.0592
56 Watt Pin Based CFL Magnetic Ballast	0.0731
56 Watt Screw In CFL Integral Ballast	0.0560
56 Watt Exterior Canopy or Soffit LED Fixture	0.0560
57 Watt Pin Based CFL Electronic Ballast	0.0603
57 Watt Pin Based CFL Magnetic Ballast	0.0744
57 Watt Screw In CFL Integral Ballast	0.0570
57 Watt Exterior Canopy or Soffit LED Fixture	0.0570
58 Watt Pin Based CFL Electronic Ballast	0.0614
58 Watt Pin Based CFL Magnetic Ballast	0.0757
58 Watt Screw In CFL Integral Ballast	0.0580
58 Watt Exterior Canopy or Soffit LED Fixture	0.0580
59 Watt Pin Based CFL Electronic Ballast	0.0624
59 Watt Pin Based CFL Magnetic Ballast	0.0771
59 Watt Screw In CFL Integral Ballast	0.0590
59 Watt Exterior Canopy or Soffit LED Fixture	0.0590
6 Watt Pin Based CFL Electronic Ballast	0.0063
6 Watt Pin Based CFL Magnetic Ballast	0.0078
6 Watt Screw In CFL Integral Ballast	0.0060
6 Watt Interior LED lamp	0.0060
60 Watt Pin Based CFL Electronic Ballast	0.0635
60 Watt Pin Based CFL Magnetic Ballast	0.0784

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
60 Watt Screw In CFL Integral Ballast	0.0600
60 Watt Incandescent Fixture	0.0600
60 Watts Incandescent Lamp	0.0600
60 Watt Exterior Canopy or Soffit LED Fixture	0.0600
61 Watt Pin Based CFL Electronic Ballast	0.0645
61 Watt Pin Based CFL Magnetic Ballast	0.0797
61 Watt Screw In CFL Integral Ballast	0.0610
61 Watt Exterior Canopy or Soffit LED Fixture	0.0610
62 Watt Pin Based CFL Electronic Ballast	0.0656
62 Watt Pin Based CFL Magnetic Ballast	0.0810
62 Watt Screw In CFL Integral Ballast	0.0620
62 Watt Exterior Canopy or Soffit LED Fixture	0.0620
63 Watt Pin Based CFL Electronic Ballast	0.0667
63 Watt Pin Based CFL Magnetic Ballast	0.0823
63 Watt Screw In CFL Integral Ballast	0.0630
63 Watt Exterior Canopy or Soffit LED Fixture	0.0630
64 Watt Pin Based CFL Electronic Ballast	0.0677
64 Watt Pin Based CFL Magnetic Ballast	0.0836
64 Watt Screw In CFL Integral Ballast	0.0640
64 Watt Exterior Canopy or Soffit LED Fixture	0.0640
65 Watt Pin Based CFL Electronic Ballast	0.0688
65 Watt Pin Based CFL Magnetic Ballast	0.0849
65 Watt Screw In CFL Integral Ballast	0.0650
65 Watt Incandescent Fixture	0.0650
65 Watts Incandescent Lamp	0.0650
65 Watt Exterior Canopy or Soffit LED Fixture	0.0650
66 Watt Pin Based CFL Electronic Ballast	0.0698
66 Watt Pin Based CFL Magnetic Ballast	0.0862
66 Watt Screw In CFL Integral Ballast	0.0660

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
66 Watt Exterior Canopy or Soffit LED Fixture	0.0660
67 Watt Pin Based CFL Electronic Ballast	0.0709
67 Watt Pin Based CFL Magnetic Ballast	0.0875
67 Watt Screw In CFL Integral Ballast	0.0670
67 Watt Exterior Canopy or Soffit LED Fixture	0.0670
68 Watt Pin Based CFL Electronic Ballast	0.0719
68 Watt Pin Based CFL Magnetic Ballast	0.0888
68 Watt Screw In CFL Integral Ballast	0.0680
68 Watt Exterior Canopy or Soffit LED Fixture	0.0680
69 Watt Pin Based CFL Electronic Ballast	0.0730
69 Watt Pin Based CFL Magnetic Ballast	0.0901
69 Watt Screw In CFL Integral Ballast	0.0690
69 Watt Exterior Canopy or Soffit LED Fixture	0.0690
7 Watt Pin Based CFL Electronic Ballast	0.0074
7 Watt Pin Based CFL Magnetic Ballast	0.0091
7 Watt Screw In CFL Integral Ballast	0.0070
7 Watt Interior LED lamp	0.0070
70 Watt Pin Based CFL Electronic Ballast	0.0741
70 Watt Pin Based CFL Magnetic Ballast	0.0914
70 Watt Screw In CFL Integral Ballast	0.0700
70 Watt Incandescent Fixture	0.0700
70 Watts Incandescent Lamp	0.0700
70 Watt Exterior Canopy or Soffit LED Fixture	0.0700
70W Metal Halide, magnetic ballast	0.0930
70W Pulse Start Metal Halide, energy saving magnetic ballast	0.0850
70W Pulse Start Metal Halide, magnetic ballast	0.0900
71 Watt Pin Based CFL Electronic Ballast	0.0751
71 Watt Pin Based CFL Magnetic Ballast	0.0927
71 Watt Screw In CFL Integral Ballast	0.0710

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
71 Watt Exterior Canopy or Soffit LED Fixture	0.0710
72 Watt Pin Based CFL Electronic Ballast	0.0762
72 Watt Pin Based CFL Magnetic Ballast	0.0940
72 Watt Screw In CFL Integral Ballast	0.0720
72 Watt Exterior Canopy or Soffit LED Fixture	0.0720
73 Watt Pin Based CFL Electronic Ballast	0.0772
73 Watt Pin Based CFL Magnetic Ballast	0.0953
73 Watt Screw In CFL Integral Ballast	0.0730
73 Watt Exterior Canopy or Soffit LED Fixture	0.0730
74 Watt Pin Based CFL Electronic Ballast	0.0783
74 Watt Pin Based CFL Magnetic Ballast	0.0966
74 Watt Screw In CFL Integral Ballast	0.0740
74 Watt Exterior Canopy or Soffit LED Fixture	0.0740
75 Watt Pin Based CFL Electronic Ballast	0.0794
75 Watt Pin Based CFL Magnetic Ballast	0.0980
75 Watt Screw In CFL Integral Ballast	0.0750
75 Watt Incandescent Fixture	0.0750
75 Watts Incandescent Lamp	0.0750
75 Watt Exterior Canopy or Soffit LED Fixture	0.0750
750W Pulse Start Metal Halide, magnetic ballast	0.8120
76 Watt Pin Based CFL Electronic Ballast	0.0804
76 Watt Pin Based CFL Magnetic Ballast	0.0993
76 Watt Screw In CFL Integral Ballast	0.0760
76 Watt Exterior Canopy or Soffit LED Fixture	0.0760
77 Watt Pin Based CFL Electronic Ballast	0.0815
77 Watt Pin Based CFL Magnetic Ballast	0.1006
77 Watt Screw In CFL Integral Ballast	0.0770
77 Watt Exterior Canopy or Soffit LED Fixture	0.0770
78 Watt Pin Based CFL Electronic Ballast	0.0825

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
78 Watt Pin Based CFL Magnetic Ballast	0.1019
78 Watt Screw In CFL Integral Ballast	0.0780
78 Watt Exterior Canopy or Soffit LED Fixture	0.0780
79 Watt Pin Based CFL Electronic Ballast	0.0836
79 Watt Pin Based CFL Magnetic Ballast	0.1032
79 Watt Screw In CFL Integral Ballast	0.0790
79 Watt Exterior Canopy or Soffit LED Fixture	0.0790
8 Watt Pin Based CFL Electronic Ballast	0.0085
8 Watt Pin Based CFL Magnetic Ballast	0.0104
8 Watt Screw In CFL Integral Ballast	0.0080
8 Watt Interior LED Fixture	0.0080
8 Watt Interior LED lamp	0.0080
80 Watt Pin Based CFL Electronic Ballast	0.0846
80 Watt Pin Based CFL Magnetic Ballast	0.1045
80 Watt Screw In CFL Integral Ballast	0.0800
80 Watt Incandescent Fixture	0.0800
80 Watts Incandescent Lamp	0.0800
80 Watt Exterior Canopy or Soffit LED Fixture	0.0800
81 Watt Pin Based CFL Electronic Ballast	0.0857
81 Watt Pin Based CFL Magnetic Ballast	0.1058
81 Watt Exterior Canopy or Soffit LED Fixture	0.0810
82 Watt Pin Based CFL Electronic Ballast	0.0868
82 Watt Pin Based CFL Magnetic Ballast	0.1071
82 Watt Exterior Canopy or Soffit LED Fixture	0.0820
83 Watt Pin Based CFL Electronic Ballast	0.0878
83 Watt Pin Based CFL Magnetic Ballast	0.1084
83 Watt Exterior Canopy or Soffit LED Fixture	0.0830
84 Watt Pin Based CFL Electronic Ballast	0.0889
84 Watt Pin Based CFL Magnetic Ballast	0.1097

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
84 Watt Exterior Canopy or Soffit LED Fixture	0.0840
85 Watt Pin Based CFL Electronic Ballast	0.0899
85 Watt Pin Based CFL Magnetic Ballast	0.1110
85 Watt Incandescent Fixture	0.0850
85 Watts Incandescent Lamp	0.0850
85 Watt Exterior Canopy or Soffit LED Fixture	0.0850
86 Watt Pin Based CFL Electronic Ballast	0.0910
86 Watt Pin Based CFL Magnetic Ballast	0.1123
86 Watt Exterior Canopy or Soffit LED Fixture	0.0860
87 Watt Pin Based CFL Electronic Ballast	0.0920
87 Watt Pin Based CFL Magnetic Ballast	0.1136
87 Watt Exterior Canopy or Soffit LED Fixture	0.0870
88 Watt Pin Based CFL Electronic Ballast	0.0931
88 Watt Pin Based CFL Magnetic Ballast	0.1149
88 Watt Exterior Canopy or Soffit LED Fixture	0.0880
89 Watt Pin Based CFL Electronic Ballast	0.0942
89 Watt Pin Based CFL Magnetic Ballast	0.1162
89 Watt Exterior Canopy or Soffit LED Fixture	0.0890
9 Watt Pin Based CFL Electronic Ballast	0.0095
9 Watt Pin Based CFL Magnetic Ballast	0.0118
9 Watt Screw In CFL Integral Ballast	0.0090
9 Watt Incandescent Lamp	0.0090
9 Watt Interior LED Fixture	0.0090
9 Watt Interior LED lamp	0.0090
90 Watt Pin Based CFL Electronic Ballast	0.0952
90 Watt Pin Based CFL Magnetic Ballast	0.1175
90 Watt Incandescent Fixture	0.0900
90 Watts Incandescent Lamp	0.0900
90 Watt Exterior Canopy or Soffit LED Fixture	0.0900

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
91 Watt Pin Based CFL Electronic Ballast	0.0963
91 Watt Pin Based CFL Magnetic Ballast	0.1188
91 Watt Exterior Canopy or Soffit LED Fixture	0.0910
92 Watt Pin Based CFL Electronic Ballast	0.0973
92 Watt Pin Based CFL Magnetic Ballast	0.1202
92 Watt Exterior Canopy or Soffit LED Fixture	0.0920
93 Watt Pin Based CFL Electronic Ballast	0.0984
93 Watt Pin Based CFL Magnetic Ballast	0.1215
93 Watt Exterior Canopy or Soffit LED Fixture	0.0930
94 Watt Pin Based CFL Electronic Ballast	0.0995
94 Watt Pin Based CFL Magnetic Ballast	0.1228
94 Watt Exterior Canopy or Soffit LED Fixture	0.0940
95 Watt Pin Based CFL Electronic Ballast	0.1005
95 Watt Pin Based CFL Magnetic Ballast	0.1241
95 Watt Incandescent Fixture	0.0950
95 Watts Incandescent Lamp	0.0950
95 Watt Exterior Canopy or Soffit LED Fixture	0.0950
96 Watt Pin Based CFL Electronic Ballast	0.1016
96 Watt Pin Based CFL Magnetic Ballast	0.1254
96 Watt Exterior Canopy or Soffit LED Fixture	0.0960
97 Watt Pin Based CFL Electronic Ballast	0.1026
97 Watt Pin Based CFL Magnetic Ballast	0.1267
97 Watt Exterior Canopy or Soffit LED Fixture	0.0970
98 Watt Pin Based CFL Electronic Ballast	0.1037
98 Watt Pin Based CFL Magnetic Ballast	0.1280
98 Watt Exterior Canopy or Soffit LED Fixture	0.0980
99 Watt Pin Based CFL Electronic Ballast	0.1047
99 Watt Pin Based CFL Magnetic Ballast	0.1293
99 Watt Exterior Canopy or Soffit LED Fixture	0.0990

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Ceramic Metal Halide, 100W, Energy Saving Magnetic Ballast	0.1180
Ceramic Metal Halide, 100W, magnetic ballast	0.1280
Ceramic Metal Halide, 1-PAR 39W, electronic ballast	0.0450
Ceramic Metal Halide, 1-SE 150W, electronic ballast	0.1680
Ceramic Metal Halide, 1-SE 175W, electronic ballast	0.1890
Ceramic Metal Halide, 1-SE 20W, 1-ELEC	0.0200
Ceramic Metal Halide, 1-SE 250W, electronic ballast	0.2750
Ceramic Metal Halide, 1-SE 25W, 1-ELEC	0.0250
Ceramic Metal Halide, 320W, electronic ballast	0.3490
Ceramic Metal Halide, 350W, electronic ballast	0.3800
Ceramic Metal Halide, 400W, electronic ballast	0.4350
Ceramic Metal Halide, 70W, electronic ballast	0.0700
Ceramic Metal Halide, MR16 20W, 1-ELEC	0.0200
F32T8 25W Lamp High Ballast Factor	0.0288
F32T8 25W Lamp Low Ballast Factor	0.0195
F32T8 25W Lamp Normal Ballast Factor	0.0220
F32T8 28W Lamp High Ballast Factor	0.0322
F32T8 28W Lamp Low Ballast Factor	0.0218
F32T8 28W Lamp Normal Factor	0.0246
F32T8 32W Lamp in high ballast factor fixture	0.0368
F32T8 32W Lamp in low ballast factor fixture	0.0250
F32T8 32W Lamp in normal ballast factor fixture	0.0282
Fluorescent, (1) 96", T-8 lamp, high efficiency high ballast factor electronic ballast	0.0679
Fluorescent, (1) 96", T-8 lamp, high efficiency low ballast factor electronic ballast	0.0470
Fluorescent, (1) 96", T-8 lamp, high efficiency normal ballast factor electronic ballast	0.0519
Fluorescent, (2) 96", T-8 lamp, high power factor high efficiency electronic ballast	0.1357
Fluorescent, (2) 96", T-8 lamp, low power factor high efficiency electronic ballast	0.0940
Fluorescent, (2) 96", T-8 lamp, normal power factor high efficiency electronic ballast	0.1038
High Pressure Sodium (1) 150W lamp	0.1880

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
High Pressure Sodium 1000W lamp	1.1000
High Pressure Sodium 250W lamp	0.1880
High Pressure Sodium 250W, magnetic ballast	0.2950
High Pressure Sodium 310W lamp	0.2950
High Pressure Sodium 400W lamp	0.3650
High Pressure Sodium 750W lamp	0.4570
High Pressure Sodium, 150W, magnetic ballast	0.8400
Incandescent (1) 150W lamp	0.1500
Incandescent 1-A 150W, no ballast	0.1500
Incandescent 1-PAR 150W	0.1500
Incandescent 1-PS40 500W	0.5000
Incandescent 1-R 100W	0.1000
Incandescent 1-R 120W	0.1200
Incandescent 1-R 150W	0.1500
Incandescent 1-R 75W	0.0750
Incandescent 250 Watt	0.2500
Incandescent 300 Watt	0.3000
Incandescent Lamp 100 Watts	0.1000
Mercury Vapor (1) 175W lamp	0.2050
Mercury Vapor 1000W lamp	1.0800
Mercury Vapor 1000W, magnetic ballast	1.0800
Mercury Vapor 250W lamp	0.2850
Mercury Vapor 250W, magnetic ballast	0.2850
Mercury Vapor 400W lamp	0.4540
Mercury Vapor 400W, magnetic ballast	0.4540
Metal Halide (1) 1000W lamp	1.0800
Metal Halide (1) 150W lamp	0.1850
Metal Halide (1) 175W lamp	0.2100
Metal Halide (1) 250W lamp	0.2950

Table 6: Deemed Fixture Table - Lighting Controls

Fixture Description - Wall Mount	Connected Load kW
Metal Halide (1) 400W lamp	0.4540
Metal Halide (1) 750W lamp	0.8500
PL 25W CFL	0.0250
PL 28W CFL	0.028
PL 40W CFL	0.0400
Pulse Start Metal Halide (1) 1000W lamp	1.0800
Pulse Start Metal Halide 250W lamp	0.2720
Pulse Start Metal Halide 320W lamp	0.3420
Pulse Start Metal Halide 350W lamp	0.3750
Pulse Start Metal Halide 750W lamp	0.8120
T12 5 Foot 75W Fluorescent	0.0975
T12 6 Foot 85W Fluorescent	0.1060
T8 5 Foot 55W Fluorescent	0.0700
T8 6 Foot 66W Fluorescent	0.0810

Incremental Cost and PAFs for Wall and Ceilig Mount Occupancy Sensors

Full Cost - Ceiling Occupancy Sensor	$ 125.00
Full Cost - Photocell	$ 65.00
Full Cost of Wall Occupancy Sensor	$ 65.00
PAF Wall	0.70
PAF Ceiling	0.70
PAF Daylighting Continuous	0.70
PAF Daylighting Multiple Step	0.80
PAF Daylighting On/Off	0.90

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Motor & Drive Efficiency

Prescriptive rebates will be offered for new motors (Plan A) up to 500 hp and replacement of currently operating motors (Plan B) up to 500 hp, installation of new variable frequency drives (VFD) up to 200 hp, replacement of standard refrigeration evaporator fan motors with electronically commutated motors (ECM) and Constant Speed Motor Controllers up to 500HP.

Algorithms:

Motor Electrical Energy Savings (Customer kWh)	= HP x LF_Motors x Conversion x (1/Standard_Eff - 1/ High_Eff) x Hrs
Motor Electrical Demand Savings (Customer kW)	= HP x LF_Motors x Conversion x (1/Standard_Eff - 1/ High_Eff)
VFD Drive Electrical Energy Savings (Customer kWh)	= HP x LF_Drives x Conversion x (1/Standard_Eff) x Hrs x %_Savings_Drives
VFD Drive Electrical Demand Savings (Customer kW)	= HP x LF_Drives x Conversion x (1/Standard_Eff) x %_Savings_Drives
Constant Speed Motor Controller Electrical Energy Savings (Customer kWh)	= HP x kW_per_HP x Hrs
Constant Speed Motor Controller Electrical Demand Savings (Customer kW)	= HP x kW_per_HP
Electronically Commutated Motor Electrical Demand Savings (Customer kW)	= (ECM_Baseline_Fan_ Watts - ECM_Efficient_Fan_ Watts) x Refrigeration_Factor
Electronically Commutated Motor Electrical Energy Savings (Customer kWh)	= (ECM_Baseline_Fan_ Watts - ECM_Efficient_Fan_ Watts) x Refrigeration_Factor x ECM_Hours
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

Hrs	= Annual operational hours per year of the motor. Deemed values are used for hours based on the type and use of the motor as seen in Tables 1, 2, & 3. The customer provides the following information on the rebate form (HP, Industrial/non industrial, building type, and compressor/pump/fan/other)
LF_Motors	= Motor load factor as percentage (0 - 100). The assumed value of 75% will be used for prescriptive motors. (Reference 3)
LF_Drives	= Drive load factor as percentage (0 - 100). The assumed value of 75% will be used for prescriptive pumping drives and 65% will be used for prescriptive fan drives. (Reference 5)
HP	= Rated motor horsepower provided by customer on rebate form.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

High_Eff	= Efficiency of high efficiency replacement motor as percentage (0-100). Plan A high efficiency is NEMA Premium plus 1%. Plan B high efficiency is NEMA Premium. Plan B Enhanced high efficiency is NEMA Premium plus 1%. Efficiencies shown in the Deemed Motor Tables. The customer will provide the model and serial number of the motor along with actual nameplate efficiency from the new motor. If the actual efficiency is not provided by the customer, it will be determined from specification sheet.
Standard_Eff	= Efficiency of standard replacement motor as percentage (0 - 100). Plan A is NEMA Premium. Plan B is EPACT. Plan B Enhanced is EPACT. Efficiencies shown in Deemed Motor Tables. Based on customer provided motor size, speed, and type.
%_Savings_Drives	= Average savings achieved by installing a variable frequency drive on a fan or pumping motor. 33% will be used for prescriptive drive rebates. (Reference 5)
kW_per_HP	= Demand savings per horsepower for constant speed motor controller applications. We will use 0.10 for escalators (Reference 9) and 0.013 for all other qualifying applications (Reference 10)
ECM_Baseline_Fan_ Watts	= Average input watts for shaded pole or permanent split capacitor motor, Table 4 (Reference 12)
ECM_Efficient_Fan_Watts	= Average input watts for efficient motor, Table 4 (Reference 12)
ECM_Hours	= Hours per year (freezer subtracts defrost time), Table 4 (Reference 12)
Refrigeration_Factor	= Multiplier to include interactive effects of refrigeration energy to remove heat from the motor. Reduction in motor energy results in a reduction in refrigeration energy. = 1+1/COP (See assumptions for values)
COP	= Coefficient of Performance = refrigeration capacity(btu/hr)/energy input(btu/hr)
Conversion	= Standard conversion from horsepower to kW. 1 HP = .746 kW
Coincidence Factor	= Probability that peak demand of the motor will coincide with peak utility system demand. 0.78 will be used for prescriptive rebates, see Reference 2.
Measure Life	= Length of time the motor/drive will be operational = 20 years for new, replacement motors, CS motor controllers & 15 years for VFDs and EC Motors, (Reference 3,11)
Baseline and incremental cost assumptions	= The customer will provide the model and serial number of the motor and from that the size, type and rpm of the motor/drive will determine the deemed baseline cost or incremental cost. (Reference 8-motor replacement, and VFDs , 10-CS Motor Controllers, and 13-EC Motors)
TDLF	A transmission distribution loss factor of 6.5%

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

NTG	Net-to-Gross factors - 65% as the NTG for motor replacement, VFD, and custom products. For EC Motors and CS Motor Controllers 95% is used. (Reference 7)
Incremental operation and maintenance costs or savings	= 0 value assumed for this product
Incremental cost	Motors - see Deemed Motor Table 6. VFDs - see Deemed ASD Table 7. Motor Controllers - see Deemed Motor Controller Table 3. EC Motors - See Table 4

Provided by Customer:	**Verified during M&V:**
For Motors:	
New motor model and serial number (HP, efficiency, type, and speed can then be looked up in a database)	Yes
Application of motor (Industrial/non Industrial)	Yes
Building type where motor is installed for non industrial motors	Yes
Use of motor (pump, fan, other) for non industrial motors	Yes
Equipment is installed	Yes
For Variable Frequency Drives (VFD):	
Size, speed, type and use of motor drive is connected to	Yes
Application of motor (Industrial/non Industrial)	Yes
Building type where motor is installed for non industrial motors	Yes
Use of motor (pump, fan, other) for non industrial motors	Yes
Equipment is installed	Yes
For Constant Speed Motor Controllers:	
Size of motor	
Application of motor (Escalator/Other that qualify)	
For Electronically Commutated Evaporator Fan Motors:	
Size of motor	Yes
Application of motor (Display Case or Walk-in)	Yes
Case or Walk-in temperature (Medium Temp or Low Temp)	Yes
For Walk-in's: Fan diameter (<= 15 inches or >15 inches	Yes

Assumptions:

- Each motor is replaced with the same size on a 1 for 1 basis. Motors replaced with different sizes can participate in the Custom Efficiency product.
- Prescriptive rebates are only given for motors put into service, rebates are not given for backup motors.
- Prescriptive rebates are only given to variable frequency drives installed on centrifugal pump or fan applications.
- Rebates do not apply to rewound or repaired motors.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

- Constant speed motor controllers are only eligible if installed on escalators, or industrial/commercial applications that cannot be shut of or slowed down during normal business operation, and operate at a load factor of less than 20% more than 65% of the time.

- COP Deemed at 1.6 for Low Temperature Applications and 2.3 for Medium Temperature Applications, from our anti-sweat heater projects, EC Motor custom projects and are consistent with custom projects from various custom refrigeration applications.

Table 1: Operating Hours by Motor Size, Industrial Applications (5)

HP	Fans	Pumps	Air Compressor	Other
1	4,550	3,380	1,257	2,435
1.5	4,550	3,380	1,257	2,435
2	4,550	3,380	1,257	2,435
3	4,550	3,380	1,257	2,435
5	4,550	3,380	1,257	2,435
7.5	4,316	4,121	2,131	2,939
10	4,316	4,121	2,131	2,939
15	4,316	4,121	2,131	2,939
20	4,316	4,121	2,131	2,939
25	5,101	4,889	3,528	3,488
30	5,101	4,889	3,528	3,488
40	5,101	4,889	3,528	3,488
50	5,101	4,889	3,528	3,488
60	6,151	5,667	4,520	5,079
75	6,151	5,667	4,520	5,079
100	6,151	5,667	4,520	5,079
125	5,964	5,126	4,685	5,137
150	5,964	5,126	4,685	5,137
200	5,964	5,126	4,685	5,137
250	7,044	5,968	6,148	6,102
300	7,044	5,968	6,148	6,102
350	7,044	5,968	6,148	6,102
400	7,044	5,968	6,148	6,102
450	7,044	5,968	6,148	6,102
500	7,044	5,968	6,148	6,102

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 2: Operating Hours by Application for all products other than motor controllers, Non-industrial (3)

Building Type	Operating Hours
Office HVAC Pump	2,000
Retail HVAC Pump	2,000
Hospitals HVAC Pump	2,754
Elem/Sec Schools HVAC Pump	2,190
Restaurant HVAC Pump	2,000
Warehouse HVAC Pump	2,241
Hotels/Motels HVAC Pump	4,231
Grocery HVAC Pump	2,080
Health HVAC Pump	2,559
College/Univ HVAC Pump	3,641
Office Ventilation Fan	6,192
Retail Ventilation Fan	3,261
Hospitals Ventilation Fan	8,374
Elem/Sec Schools Ventilation Fan	3,699
Restaurant Ventilation Fan	4,155
Warehouse Ventilation Fan	6,389
Hotels/Motels Ventilation Fan	3,719
Grocery Ventilation Fan	6,389
Health Ventilation Fan	2,000
College/Univ Ventilation Fan	3,631
Office Other Application	4,500
Retail Other Application	4,500
Hospitals Other Application	4,500
Elem/Sec Schools Other Application	4,500
Restaurant Other Application	4,500
Warehouse Other Application	4,500
Hotels/Motels Other Application	4,500
Grocery Other Application	4,500
Health Other Application	4,500
College/Univ Other Application	4,500

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 3: Operating Hours & Incremental Cost for Motor Controllers by Application, Non-industrial (Reference 4 ,10)

Building Type and motor application	Escalator	Industrial	Incremental Cost
5	4,500	2,435	$918
7.5	4,500	2,939	$918
10	4,500	2,939	$918
15	4,500	2,939	$918
20	4,500	2,939	$933
25	4,500	3,488	$1,012
30	4,500	3,488	$1,091
40	4,500	3,488	$1,300
50	4,500	3,488	$1,497
60	4,500	5,079	$1,796
75	4,500	5,079	$1,943
100	4,500	5,079	$2,389
125	4,500	5,137	$3,087
150	4,500	5,137	$3,784
200	4,500	5,137	$4,555
250	4,500	6,102	$4,655
300	4,500	6,102	$4,755
350	4,500	6,102	$4,855
400	4,500	6,102	$4,955
450	4,500	6,102	$5,055
500	4,500	6,102	$5,155

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 4: Baseline Watts, Efficient Watts, Operating Hours and Incremental Cost for EC Motors by Application (Reference 12 and 13)

Motor Application	ECM_Baseline_ Fan_ Watts	ECM_Efficient_F an_Watts	ECM_Hours	ECM Incremental Cost
EC Motors - Medium Temp Display Case	71	24	8,672	$ 88.00
EC Motors - Low Temp Display Case	81	27	8,672	$ 88.00
EC Motors - Medium Temp Walk-in, Evap fan <= 15" Diameter	136	44	8,585	$ 180.00
EC Motors - Low Temp Walk-in, Evap fan <= 15" Diameter	154	50	8,585	$ 180.00
EC Motors - Medium Temp Walk-in, Evap fan > 15" Diameter	138	69	8,585	$ 180.00
EC Motors - Low Temp Walk-in, Evap fan > 15" Diameter	156	78	8,585	$ 180.00

Changes from 2011:

Added EC Motors and Constant Speed Motor Controllers products
Changed Plan A Baseline from EPACT to NEMA Premium and the High Eff. from NEMA Premium to NEMA Premium +1% (Enhanced)
Changed Plan B Baseline from Pre-EPACT standard efficiency to EPACT standard efficiency
Changed Plan B Enhanced from Pre-EPACT standard efficiency to EPACT standard efficiency
Incremental Cost update gathered April 2011 for Plan A, B, B enhanced and VFD's
Additional custom projects added for summarizing average savings per project most accurately

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

References:

1. CEE (Consortium for Energy Efficiency) Premium Efficiency Motors Initiative - Source for premium motor efficiencies, EPAct Standard Motor Efficiencies and baseline/incremental costs

2. NYSERDA (New York State Energy Research and Development Authority), Energy $mart Programs Deemed Savings Database - Source for Coincidence Factor

3. Efficiency Vermont's Technical Reference User Manual, 2004 - Source for operating hours for non-industrial motors (p.15) and source for measure life, Source for load factor (75%) and baseline/incremental costs

4. United States Industrial Electric Motor Systems Market Opportunities Assessment, EERE, US DOE, Dec 2002 - Source for operating hours for industrial motors and source for load factor (Table 1-18 and 1-19)

5. Office of Industrial Electric Motor Systems Market Opportunities Assessment : Department of Energy (assessment of 265 Industrial facilities in 1997) - Source for VSD opportunity in the US market along with Load Factors for Fans and Pumps along with average savings.

6. NWPCC (Northwest Power Conservation Council) RTF's (Regional Technical Forum) Archived Measures - Source for full motor cost

7. Net-to-gross factor from Program Evaluation in 2010 by third party and other sources for new products.

8. Average cost for VFD's and Motor Cost information from April 2011 effort local vendors

9. Engineering analysis performed by Xcel energy on installation of 164 controllers, Colorado custom project 404, 2009.

10. Methodology for demand savings from Esource TAS-F-1, March 2007 - Identifying Cost-Effective Applications for Motor Voltage Controllers

11. Comprehensive Process and Impact Evaluation of the (Xcel Energy) Colorado Motor and Drive Efficiency Program, FINAL, March 28, 2011, TetraTech

12. ECM baseline and efficient watts and hours are from monitored data from Custom Efficiency projects

13. ECM incremental costs are from Southern California Edison Work Paper WPSCNRRN0011: Evaporator Fan Motors

14. Rewind Costs from http://www.greenmotors.org/downloads/RTFSubmittalMay_08%20_2_.pdf website

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Stipulated Values

Load Factor	0.75
Conversion	= .746 (1 HP = .746 kW)
Coincidence Factor	0.78

Table 5: Motor Efficiency and Incremental Costs (Reference 1, 2, 3, 9)

Motor Tag	HP	Speed	Type	Pre-EPACT Motor Efficiency	EPACT Motor Efficiency	NEMA Premium Motor Efficiency	NEMA Premium plus 1% Motor Efficiency	EPACT Motor Cost	NEMA Premium Motor Cost	NEMA Premium plus 1% Motor Cost	EPACT Motor Installed cost	NEMA Premium Installed Cost	NEMA Premium plus 1% Installed Cost	Plan A Enhanced, Motor only Incrme. (NEMA Premium to NEMA Premium +1%)	Plan B, Installed (EPACT to NEMA Premium)	Plan B Enhanced, Installed (EPACT to NEMA Premium)
1 HP 1800 RPM "blend"	1	1800	"blend"								$537	$730	$1,003	$0	$730	$1,003
1.5 HP 1800 RPM "blend"	1.5	1800	"blend"								$570	$725	$996	$0	$725	$996
2 HP 1800 RPM "blend"	2	1800	"blend"								$593	$800	$1,121	$0	$800	$1,121
3 HP 1800 RPM "blend"	3	1800	"blend"								$654	$840	$1,188	$0	$840	$1,188
5 HP 1800 RPM "blend"	5	1800	"blend"								$670	$860	$1,222	$0	$860	$1,222
7.5 HP 1800 RPM "blend"	7.5	1800	"blend"								$838	$1,165	$1,730	$0	$1,165	$1,730
10 HP 1800 RPM "blend"	10	1800	"blend"								$870	$1,298	$1,952	$0	$1,298	$1,952
15 HP 1800 RPM "blend"	15	1800	"blend"								$1,850	$2,242	$3,098	$0	$2,242	$3,098
20 HP 1800 RPM "blend"	20	1800	"blend"								$2,089	$2,522	$3,567	$0	$2,522	$3,567
25 HP 1800 RPM "blend"	25	1800	"blend"								$2,330	$2,873	$4,152	$0	$2,873	$4,152
30 HP 1800 RPM "blend"	30	1800	"blend"								$2,605	$3,095	$4,521	$0	$3,095	$4,521
40 HP 1800 RPM "blend"	40	1800	"blend"								$3,024	$3,716	$5,558	$0	$3,716	$5,558
50 HP 1800 RPM "blend"	50	1800	"blend"								$3,177	$4,073	$6,153	$0	$4,073	$6,153
60 HP 1800 RPM "blend"	60	1800	"blend"								$4,056	$5,128	$7,913	$0	$5,128	$7,913
75 HP 1800 RPM "blend"	75	1800	"blend"								$4,799	$5,888	$9,181	$0	$5,888	$9,181
100 HP 1800 RPM "blend"	100	1800	"blend"								$6,017	$7,392	$11,262	$0	$7,392	$11,262
125 HP 1800 RPM "blend"	125	1800	"blend"								$7,106	$9,076	$14,072	$0	$9,076	$14,072
150 HP 1800 RPM "blend"	150	1800	"blend"								$8,396	$9,401	$14,615	$0	$9,401	$14,615
200 HP 1800 RPM "blend"	200	1800	"blend"								$9,847	$11,250	$17,699	$0	$11,250	$17,699
250 HP 1800 RPM "blend"	250	1800	"blend"								$10,739	$13,958	$22,216	$0	$13,958	$22,216
300 HP 1800 RPM "blend"	300	1800	"blend"								$12,670	$17,744	$28,532	$0	$17,744	$28,532
350 HP 1800 RPM "blend"	350	1800	"blend"								$14,114	$25,653	$41,726	$0	$25,653	$41,726
400 HP 1800 RPM "blend"	400	1800	"blend"								$21,124	$28,962	$47,246	$0	$28,962	$47,246
450 HP 1800 RPM "blend"	450	1800	"blend"								$21,124	$49,947	$82,254	$0	$49,947	$82,254
500 HP 1800 RPM "blend"	500	1800	"blend"								$33,600	$52,358	$86,275	$0	$52,358	$86,275
1 HP 1200 RPM ODP	1	1200	ODP	76.30%	80.0%	82.5%	83.5%				$615	$681	$922	$0		$307
1.5 HP 1200 RPM ODP	1.5	1200	ODP	77.40%	84.0%	86.5%	87.5%				$663	$770	$1,070	$0		$407
2 HP 1200 RPM ODP	2	1200	ODP	78.50%	85.5%	87.5%	88.5%				$742	$753	$1,042	$0		$300
3 HP 1200 RPM ODP	3	1200	ODP	80.60%	86.5%	88.5%	89.5%				$719	$879	$1,252	$0		$533
5 HP 1200 RPM ODP	5	1200	ODP	83.20%	87.5%	89.5%	90.5%				$719	$990	$1,437	$0		$718
7.5 HP 1200 RPM ODP	7.5	1200	ODP	85.30%	88.5%	90.2%	91.2%				$1,141	$1,240	$1,855	$0		$714
10 HP 1200 RPM ODP	10	1200	ODP	86.30%	90.2%	91.7%	92.7%				$1,257	$1,518	$2,318	$0		$1,061
15 HP 1200 RPM ODP	15	1200	ODP	87.20%	90.2%	91.7%	92.7%				$2,050	$2,575	$3,655	$0		$1,605
20 HP 1200 RPM ODP	20	1200	ODP	88.10%	91.0%	92.4%	93.4%				$2,464	$2,927	$4,241	$0		$1,777
25 HP 1200 RPM ODP	25	1200	ODP	88.90%	91.7%	93.0%	94.0%				$3,135	$3,335	$4,923	$0		$1,788
30 HP 1200 RPM ODP	30	1200	ODP	89.40%	92.4%	93.6%	94.6%				$2,939	$3,438	$5,094	$0		$2,155
40 HP 1200 RPM ODP	40	1200	ODP	89.70%	93.0%	94.1%	95.1%				$3,864	$4,491	$6,850	$0		$2,986
50 HP 1200 RPM ODP	50	1200	ODP	89.90%	93.0%	94.1%	95.1%				$4,457	$5,234	$8,090	$0		$3,633
60 HP 1200 RPM ODP	60	1200	ODP	90.40%	93.6%	94.5%	95.5%				$5,122	$6,127	$9,579	$0		$4,457
75 HP 1200 RPM ODP	75	1200	ODP	90.90%	93.6%	94.5%	95.5%				$5,874	$6,937	$10,930	$0		$5,056
100 HP 1200 RPM ODP	100	1200	ODP	90.90%	94.1%	95.0%	96.0%				$6,912	$7,531	$11,495	$0		$4,583
125 HP 1200 RPM ODP	125	1200	ODP	91.30%	94.1%	95.0%	96.0%				$7,285	$8,704	$13,452	$0		$6,167
150 HP 1200 RPM ODP	150	1200	ODP	91.70%	94.5%	95.4%	96.4%				$7,744	$9,967	$15,558	$0		$7,814
200 HP 1200 RPM ODP	200	1200	ODP	92.50%	94.5%	95.4%	96.4%				$9,421	$12,599	$19,948	$0		$10,527
250 HP 1200 RPM ODP	250	1200	ODP	94.11%	95.4%	95.5%	96.5%				$0	$0	$0	$0		$0
300 HP 1200 RPM ODP	300	1200	ODP	94.36%	95.4%	95.5%	96.5%				$0	$0	$0	$0		$0
350 HP 1200 RPM ODP	350	1200	ODP	94.53%	95.4%	95.5%	96.5%				$0	$0	$0	$0		$0
400 HP 1200 RPM ODP	400	1200	ODP	95.40%	95.8%	95.9%	96.9%				$0	$0	$0	$0		$0
450 HP 1200 RPM ODP	450	1200	ODP	95.40%	96.2%	96.3%	97.3%				$0	$0	$0	$0		$0
500 HP 1200 RPM ODP	500	1200	ODP	95.40%	96.2%	96.3%	97.3%				$0	$0	$0	$0		$0
1 HP 1800 RPM ODP	1	1800	ODP	76.30%	82.5%	85.5%	86.5%				$522	$668	$901	$0		$379
1.5 HP 1800 RPM ODP	1.5	1800	ODP	77.40%	84.0%	86.5%	87.5%				$573	$689	$936	$0		$363
2 HP 1800 RPM ODP	2	1800	ODP	78.50%	84.0%	86.5%	87.5%				$587	$720	$987	$0		$400
3 HP 1800 RPM ODP	3	1800	ODP	80.60%	86.5%	89.5%	90.5%				$649	$765	$1,062	$0		$413
5 HP 1800 RPM ODP	5	1800	ODP	83.20%	87.5%	89.5%	90.5%				$648	$815	$1,146	$0		$498
7.5 HP 1800 RPM ODP	7.5	1800	ODP	85.30%	88.5%	91.0%	92.0%				$851	$1,048	$1,534	$0		$683
10 HP 1800 RPM ODP	10	1800	ODP	86.30%	89.5%	91.7%	92.7%				$844	$1,152	$1,708	$0		$864
15 HP 1800 RPM ODP	15	1800	ODP	87.20%	91.0%	93.0%	94.0%				$1,754	$2,100	$2,861	$0		$1,107
20 HP 1800 RPM ODP	20	1800	ODP	88.10%	91.0%	93.0%	94.0%				$2,057	$2,419	$3,395	$0		$1,338
25 HP 1800 RPM ODP	25	1800	ODP	88.90%	91.7%	93.6%	94.6%				$2,289	$2,697	$3,858	$0		$1,569
30 HP 1800 RPM ODP	30	1800	ODP	89.40%	92.4%	94.1%	95.1%				$2,514	$2,810	$4,047	$0		$1,533
40 HP 1800 RPM ODP	40	1800	ODP	89.70%	93.0%	94.1%	95.1%				$2,913	$3,374	$4,987	$0		$2,074
50 HP 1800 RPM ODP	50	1800	ODP	89.90%	93.0%	94.5%	95.5%				$3,132	$3,596	$5,357	$0		$2,225
60 HP 1800 RPM ODP	60	1800	ODP	90.40%	93.6%	95.0%	96.0%				$3,763	$4,508	$6,878	$0		$3,115
75 HP 1800 RPM ODP	75	1800	ODP	90.90%	94.1%	95.0%	96.0%				$4,483	$5,264	$8,140	$0		$3,657
100 HP 1800 RPM ODP	100	1800	ODP	90.90%	94.1%	95.4%	96.4%				$5,390	$6,544	$9,847	$0		$4,457

Table 5: Motor Efficiency and Incremental Costs (Reference 1, 2, 3, 9)

Motor Tag	HP	Speed	Type	Pre-EPACT Motor Efficiency	EPACT Motor Efficiency	NEMA Premium Motor Efficiency	NEMA Premium plus 1% Motor Efficiency	EPACT Motor Cost	NEMA Premium Motor Cost	NEMA Premium plus 1% Motor Cost	EPACT Motor Installed cost	NEMA Premium Installed Cost	NEMA Premium plus 1% Installed Cost	Plan A Enhanced, Motor only Incrme. (NEMA Premium to NEMA Premium +1%)	Plan B, Installed (EPACT to NEMA Premium)	Plan B Enhanced, Installed (EPACT to NEMA Premium)
125 HP 1800 RPM ODP	125	1800	ODP	91.30%	94.5%	95.4%	96.4%				$5,958	$7,599	$11,608	$0		$5,650
150 HP 1800 RPM ODP	150	1800	ODP	91.70%	95.0%	95.8%	96.8%				$7,224	$7,998	$12,274	$0		$5,050
200 HP 1800 RPM ODP	200	1800	ODP	92.50%	95.0%	95.8%	96.8%				$8,337	$9,596	$14,939	$0		$6,602
250 HP 1800 RPM ODP	250	1800	ODP	94.44%	95.4%	95.8%	96.8%				$9,655	$10,607	$16,625	$0		$6,970
300 HP 1800 RPM ODP	300	1800	ODP	94.62%	95.4%	95.8%	96.8%				$12,157	$7,037	$10,670	$0		-$1,487
350 HP 1800 RPM ODP	350	1800	ODP	94.06%	95.4%	95.8%	96.8%				$15,902	$0	$0	$0		-$15,902
400 HP 1800 RPM ODP	400	1800	ODP	94.73%	95.4%	95.8%	96.8%				$15,704	$0	$0	$0		-$15,704
450 HP 1800 RPM ODP	450	1800	ODP	94.96%	95.8%	96.2%	97.2%				$17,551	$0	$0	$0		-$17,551
500 HP 1800 RPM ODP	500	1800	ODP	94.97%	95.8%	96.2%	97.2%				$0	$0	$0	$0		$0
1 HP 3600 RPM ODP	1	3600	ODP	76.30%	76.3%	77.0%	78.0%				$551	$434	$510	$0		-$41
1.5 HP 3600 RPM ODP	1.5	3600	ODP	77.40%	82.5%	84.0%	85.0%				$583	$654	$877	$0		$294
2 HP 3600 RPM ODP	2	3600	ODP	78.50%	84.0%	85.5%	86.5%				$589	$698	$950	$0		$361
3 HP 3600 RPM ODP	3	3600	ODP	80.60%	84.0%	85.5%	86.5%				$672	$727	$999	$0		$327
5 HP 3600 RPM ODP	5	3600	ODP	83.20%	85.5%	86.5%	87.5%				$657	$775	$1,079	$0		$422
7.5 HP 3600 RPM ODP	7.5	3600	ODP	85.30%	87.5%	88.5%	89.5%				$783	$1,058	$1,551	$0		$768
10 HP 3600 RPM ODP	10	3600	ODP	86.30%	88.5%	89.5%	90.5%				$901	$1,168	$1,734	$0		$833
15 HP 3600 RPM ODP	15	3600	ODP	87.20%	89.5%	90.2%	91.2%				$1,810	$2,122	$2,899	$0		$1,089
20 HP 3600 RPM ODP	20	3600	ODP	88.10%	90.2%	91.0%	92.0%				$1,927	$2,423	$3,401	$0		$1,474
25 HP 3600 RPM ODP	25	3600	ODP	88.90%	91.0%	91.7%	92.7%				$2,130	$2,622	$3,733	$0		$1,603
30 HP 3600 RPM ODP	30	3600	ODP	89.40%	91.0%	91.7%	92.7%				$2,352	$2,957	$4,291	$0		$1,939
40 HP 3600 RPM ODP	40	3600	ODP	89.70%	91.7%	92.4%	93.4%				$2,921	$3,470	$5,147	$0		$2,226
50 HP 3600 RPM ODP	50	3600	ODP	89.90%	92.4%	93.0%	94.0%				$2,767	$3,776	$5,658	$0		$2,891
60 HP 3600 RPM ODP	60	3600	ODP	90.40%	93.0%	93.6%	94.6%				$3,798	$4,292	$6,518	$0		$2,720
75 HP 3600 RPM ODP	75	3600	ODP	90.90%	93.0%	93.6%	94.6%				$4,347	$5,160	$7,966	$0		$3,619
100 HP 3600 RPM ODP	100	3600	ODP	90.90%	93.0%	93.6%	94.6%				$5,005	$6,089	$9,089	$0		$4,084
125 HP 3600 RPM ODP	125	3600	ODP	91.30%	93.6%	94.1%	95.1%				$5,565	$7,671	$11,728	$0		$6,163
150 HP 3600 RPM ODP	150	3600	ODP	91.70%	93.6%	94.1%	95.1%				$6,952	$8,474	$13,068	$0		$6,116
200 HP 3600 RPM ODP	200	3600	ODP	92.50%	94.5%	95.0%	96.0%				$7,502	$9,391	$14,597	$0		$7,095
250 HP 3600 RPM ODP	250	3600	ODP	92.99%	94.5%	95.0%	96.0%				$9,691	$8,650	$13,361	$0		$3,670
300 HP 3600 RPM ODP	300	3600	ODP	93.89%	95.0%	95.4%	96.4%				$15,403	$0	$0	$0		-$15,403
350 HP 3600 RPM ODP	350	3600	ODP	94.24%	95.0%	95.4%	96.4%				$16,076	$0	$0	$0		-$16,076
400 HP 3600 RPM ODP	400	3600	ODP	94.35%	95.4%	95.8%	96.8%				$20,135	$0	$0	$0		-$20,135
450 HP 3600 RPM ODP	450	3600	ODP	94.62%	95.8%	95.9%	96.9%				$0	$0	$0	$0		$0
500 HP 3600 RPM ODP	500	3600	ODP	94.60%	95.8%	95.9%	96.9%				$0	$0	$0	$0		$0
1 HP 1200 RPM TEFC	1	1200	TEFC	76.30%	80.0%	82.5%	83.5%				$713	$916	$1,314	$0		$601
1.5 HP 1200 RPM TEFC	1.5	1200	TEFC	77.40%	85.5%	87.5%	88.5%				$720	$1,005	$1,463	$0		$743
2 HP 1200 RPM TEFC	2	1200	TEFC	78.50%	86.5%	88.5%	89.5%				$751	$1,032	$1,508	$0		$757
3 HP 1200 RPM TEFC	3	1200	TEFC	80.60%	87.5%	89.5%	90.5%				$982	$1,337	$2,017	$0		$1,035
5 HP 1200 RPM TEFC	5	1200	TEFC	83.20%	87.5%	89.5%	90.5%				$975	$1,441	$2,190	$0		$1,215
7.5 HP 1200 RPM TEFC	7.5	1200	TEFC	85.30%	89.5%	91.0%	92.0%				$1,324	$1,878	$2,919	$0		$1,595
10 HP 1200 RPM TEFC	10	1200	TEFC	86.30%	89.5%	91.0%	92.0%				$1,438	$2,408	$3,803	$0		$2,365
15 HP 1200 RPM TEFC	15	1200	TEFC	87.20%	90.2%	91.7%	92.7%				$2,543	$3,189	$4,678	$0		$2,135
20 HP 1200 RPM TEFC	20	1200	TEFC	88.10%	90.2%	91.7%	92.7%				$3,018	$3,843	$5,770	$0		$2,752
25 HP 1200 RPM TEFC	25	1200	TEFC	88.90%	91.7%	93.0%	94.0%				$3,509	$4,288	$6,511	$0		$3,002
30 HP 1200 RPM TEFC	30	1200	TEFC	89.40%	91.7%	93.0%	94.0%				$4,052	$5,016	$7,726	$0		$3,674
40 HP 1200 RPM TEFC	40	1200	TEFC	89.70%	93.0%	94.1%	95.1%				$4,283	$6,368	$9,982	$0		$5,699
50 HP 1200 RPM TEFC	50	1200	TEFC	89.90%	93.0%	94.1%	95.1%				$5,308	$6,599	$10,368	$0		$5,060
60 HP 1200 RPM TEFC	60	1200	TEFC	90.40%	93.6%	94.5%	95.5%				$6,388	$8,859	$14,137	$0		$7,749
75 HP 1200 RPM TEFC	75	1200	TEFC	90.90%	93.6%	94.5%	95.5%				$7,018	$9,547	$15,285	$0		$8,267
100 HP 1200 RPM TEFC	100	1200	TEFC	90.90%	94.1%	95.0%	96.0%				$9,253	$11,407	$17,960	$0		$8,707
125 HP 1200 RPM TEFC	125	1200	TEFC	91.30%	94.1%	95.0%	96.0%				$11,424	$13,339	$21,184	$0		$9,760
150 HP 1200 RPM TEFC	150	1200	TEFC	91.70%	95.0%	95.8%	96.8%				$13,203	$14,402	$22,957	$0		$9,754
200 HP 1200 RPM TEFC	200	1200	TEFC	92.50%	95.0%	95.8%	96.8%				$14,256	$16,801	$26,959	$0		$12,703
250 HP 1200 RPM TEFC	250	1200	TEFC	94.40%	95.0%	95.8%	96.8%				$19,379	$21,427	$34,676	$0		$15,297
300 HP 1200 RPM TEFC	300	1200	TEFC	94.40%	95.0%	95.8%	96.8%				$24,295	$34,368	$56,264	$0		$31,969
350 HP 1200 RPM TEFC	350	1200	TEFC	94.28%	95.0%	95.8%	96.8%				$28,883	$25,604	$41,644	$0		$12,761
400 HP 1200 RPM TEFC	400	1200	TEFC	95.00%	95.0%	95.8%	96.8%				$0	$26,414	$42,995	$0		$42,995
450 HP 1200 RPM TEFC	450	1200	TEFC	95.00%	95.0%	95.8%	96.8%				$0	$26,941	$43,875	$0		$43,875
500 HP 1200 RPM TEFC	500	1200	TEFC	95.00%	95.0%	95.8%	96.8%				$0	$29,292	$47,796	$0		$47,796
1 HP 1800 RPM TEFC	1	1800	TEFC	76.30%	82.5%	85.5%	86.5%				$560	$821	$1,156	$0		$596
1.5 HP 1800 RPM TEFC	1.5	1800	TEFC	77.40%	84.0%	86.5%	87.5%				$566	$779	$1,085	$0		$519
2 HP 1800 RPM TEFC	2	1800	TEFC	78.50%	84.0%	86.5%	87.5%				$603	$921	$1,322	$0		$719
3 HP 1800 RPM TEFC	3	1800	TEFC	80.60%	87.5%	89.5%	90.5%				$662	$954	$1,377	$0		$715
5 HP 1800 RPM TEFC	5	1800	TEFC	83.20%	87.5%	89.5%	90.5%				$704	$929	$1,335	$0		$631
7.5 HP 1800 RPM TEFC	7.5	1800	TEFC	85.30%	89.5%	91.7%	92.7%				$820	$1,341	$2,023	$0		$1,203
10 HP 1800 RPM TEFC	10	1800	TEFC	86.30%	89.5%	91.7%	92.7%				$907	$1,518	$2,318	$0		$1,411
15 HP 1800 RPM TEFC	15	1800	TEFC	87.20%	91.0%	92.4%	93.4%				$1,993	$2,455	$3,454	$0		$1,461
20 HP 1800 RPM TEFC	20	1800	TEFC	88.10%	91.0%	93.0%	94.0%				$2,137	$2,677	$3,825	$0		$1,688
25 HP 1800 RPM TEFC	25	1800	TEFC	88.90%	92.4%	93.6%	94.6%				$2,390	$3,137	$4,592	$0		$2,202
30 HP 1800 RPM TEFC	30	1800	TEFC	89.40%	92.4%	93.6%	94.6%				$2,742	$3,521	$5,232	$0		$2,490
40 HP 1800 RPM TEFC	40	1800	TEFC	89.70%	93.0%	94.1%	95.1%				$3,189	$4,230	$6,415	$0		$3,226
50 HP 1800 RPM TEFC	50	1800	TEFC	89.90%	93.0%	94.5%	95.5%				$3,244	$4,789	$7,348	$0		$4,104

See Ref Motor Costs

Table 5: Motor Efficiency and Incremental Costs (Reference 1, 2, 3, 9)

Motor Tag	HP	Speed	Type	Pre-EPACT Motor Efficiency	EPACT Motor Efficiency	NEMA Premium Motor Efficiency	NEMA Premium plus 1% Motor Efficiency	EPACT Motor Cost	NEMA Premium Motor Cost	NEMA Premium plus 1% Motor Cost	EPACT Motor Installed cost	NEMA Premium Installed Cost	NEMA Premium plus 1% Installed Cost	Plan A Enhanced, Motor only Incrme. (NEMA Premium to NEMA Premium +1%)	Plan B, Installed (EPACT to NEMA Premium)	Plan B Enhanced, Installed (EPACT to NEMA Premium)
60 HP 1800 RPM TEFC	60	1800	TEFC	90.40%	93.6%	95.0%	96.0%				$4,495	$6,058	$9,464	$0		$4,969
75 HP 1800 RPM TEFC	75	1800	TEFC	90.90%	94.1%	95.4%	96.4%				$5,274	$6,824	$10,743	$0		$5,469
100 HP 1800 RPM TEFC	100	1800	TEFC	90.90%	94.5%	95.4%	96.4%				$6,957	$8,664	$13,384	$0		$6,427
125 HP 1800 RPM TEFC	125	1800	TEFC	91.30%	94.5%	95.4%	96.4%				$8,827	$11,292	$17,768	$0		$8,941
150 HP 1800 RPM TEFC	150	1800	TEFC	91.70%	95.0%	95.8%	96.8%				$10,153	$11,506	$18,125	$0		$7,972
200 HP 1800 RPM TEFC	200	1800	TEFC	92.50%	95.0%	96.2%	97.2%				$12,112	$13,732	$21,839	$0		$9,727
250 HP 1800 RPM TEFC	250	1800	TEFC	94.22%	95.0%	96.2%	97.2%				$14,385	$18,985	$30,602	$0		$16,217
300 HP 1800 RPM TEFC	300	1800	TEFC	94.44%	95.4%	96.2%	97.2%				$20,632	$20,604	$33,302	$0		$12,670
350 HP 1800 RPM TEFC	350	1800	TEFC	94.56%	95.4%	96.2%	97.2%				$22,745	$25,653	$41,726	$0		$18,981
400 HP 1800 RPM TEFC	400	1800	TEFC	94.83%	95.4%	96.2%	97.2%				$29,255	$28,962	$47,246	$0		$17,991
450 HP 1800 RPM TEFC	450	1800	TEFC	94.88%	95.4%	96.2%	97.2%				$0	$49,947	$82,254	$0		$82,254
500 HP 1800 RPM TEFC	500	1800	TEFC	94.86%	95.8%	96.2%	97.2%				$0	$52,358	$86,275	$0		$86,275
1 HP 3600 RPM TEFC	1	3600	TEFC	76.30%	75.5%	77.0%	78.0%				$548	$641	$856	$0		$308
1.5 HP 3600 RPM TEFC	1.5	3600	TEFC	77.40%	82.5%	84.0%	85.0%				$590	$787	$1,099	$0		$509
2 HP 3600 RPM TEFC	2	3600	TEFC	78.50%	84.0%	85.5%	86.5%				$626	$912	$1,308	$0		$682
3 HP 3600 RPM TEFC	3	3600	TEFC	80.60%	85.5%	86.5%	87.5%				$705	$942	$1,358	$0		$653
5 HP 3600 RPM TEFC	5	3600	TEFC	83.20%	87.5%	88.5%	89.5%				$815	$1,060	$1,555	$0		$740
7.5 HP 3600 RPM TEFC	7.5	3600	TEFC	85.30%	88.5%	89.5%	90.5%				$951	$1,400	$2,122	$0		$1,171
10 HP 3600 RPM TEFC	10	3600	TEFC	86.30%	89.5%	90.2%	91.2%				$1,082	$1,481	$2,256	$0		$1,174
15 HP 3600 RPM TEFC	15	3600	TEFC	87.20%	90.2%	91.0%	92.0%				$2,132	$2,362	$3,299	$0		$1,167
20 HP 3600 RPM TEFC	20	3600	TEFC	88.10%	90.2%	91.0%	92.0%				$2,229	$2,661	$3,798	$0		$1,569
25 HP 3600 RPM TEFC	25	3600	TEFC	88.90%	91.0%	91.7%	92.7%				$2,426	$3,070	$4,480	$0		$2,054
30 HP 3600 RPM TEFC	30	3600	TEFC	89.40%	91.0%	91.7%	92.7%				$2,714	$3,511	$5,215	$0		$2,501
40 HP 3600 RPM TEFC	40	3600	TEFC	89.70%	91.7%	92.4%	93.4%				$3,451	$4,257	$6,459	$0		$3,008
50 HP 3600 RPM TEFC	50	3600	TEFC	89.90%	92.4%	93.0%	94.0%				$3,492	$4,695	$7,191	$0		$3,699
60 HP 3600 RPM TEFC	60	3600	TEFC	90.40%	93.0%	93.6%	94.6%				$4,879	$6,449	$10,117	$0		$5,238
75 HP 3600 RPM TEFC	75	3600	TEFC	90.90%	93.0%	93.6%	94.6%				$5,602	$7,038	$11,100	$0		$5,498
100 HP 3600 RPM TEFC	100	3600	TEFC	90.90%	93.6%	94.1%	95.1%				$7,527	$9,059	$14,044	$0		$6,517
125 HP 3600 RPM TEFC	125	3600	TEFC	91.30%	94.5%	95.0%	96.0%				$9,666	$10,929	$17,163	$0		$7,497
150 HP 3600 RPM TEFC	150	3600	TEFC	91.70%	94.5%	95.0%	96.0%				$11,079	$12,317	$19,479	$0		$8,400
200 HP 3600 RPM TEFC	200	3600	TEFC	92.50%	95.0%	95.4%	96.4%				$13,034	$14,586	$23,264	$0		$10,230
250 HP 3600 RPM TEFC	250	3600	TEFC	94.68%	95.4%	95.8%	96.8%				$17,061	$20,171	$32,581	$0		$15,520
300 HP 3600 RPM TEFC	300	3600	TEFC	94.71%	95.4%	95.8%	96.8%				$25,218	$25,003	$40,641	$0		$15,423
350 HP 3600 RPM TEFC	350	3600	TEFC	94.65%	95.4%	95.8%	96.8%				$34,768	$29,043	$47,382	$0		$12,614
400 HP 3600 RPM TEFC	400	3600	TEFC	94.75%	95.4%	95.8%	96.8%				$34,768	$33,256	$54,409	$0		$19,641
450 HP 3600 RPM TEFC	450	3600	TEFC	94.50%	95.4%	95.8%	96.8%				$0	$33,141	$54,218	$0		$54,218
500 HP 3600 RPM TEFC	500	3600	TEFC	94.50%	95.4%	95.8%	96.8%				$0	$25,548	$41,551	$0		$41,551

Measure Life

Measure Life Plan A =	Ref (2), (3), (5)	20
Measure Life Plan B =		20

References

1 WASU Last Rev. June 25, 2007. Source of EPAct and Premium Motor Efficiencies
2 Estimates based on interpolation for selected EPAct efficiencies
3 NYSERDA (New York State Energy Research and Development Authority); NY Energy $mart Programs Deemed Savings Database - Source for coincidence factor, measure life, and motor load factor
4 NWPCC (Northwest Power Conservation Council) RTF's (Regional Technical Forum) Archived Measures - Source for full motor cost
5 Washington State University Motor Test Lab Results. June 25, 2007 - Source for efficiencies
6 Washington State and DOE Pre-EPAct Default Motor Efficiency Table. 2004.
7 Table A-1 and A-2, pp. 264-265, Energy Efficient Motor Systems, ACEEE. 1999.
8 United States Industrial Electric Motor Systems Market Opportunities Assessment, EERE, US DOE, Dec 2002 - Source for operating hours for industrial motors and source for motor load factor data (Tables 1-18 and 1-19)
9 Efficiency Vermont's Technical Reference User Manual, 2004 - Source for operating hours for commercial motors (p.15) and source for measure life and source

References -2011 Plan A Ehanced and Plan B Enhacned

Costs were determined for 1800 RPM TEFC motors, but will be used for all RPM and Types of Enhanced NEMA Premium
Incremental costs for Plan A represents the cost differential between standard motor and efficient motor
Incremental costs for Plan B motors represent the full purchase and installation costs for the new motor

VFDs
460V, 3 phase, normal duty
HP rated as constant torque
All NEMA 1 enclosure or less

Table 6: ASD Costs (Reference 8)

HP	MSRP motor - Avg of all	Motor less discount plus mark-up and inflation	Installed Loaded
1	$537	415	622
1.5	$1,600	1,237	1,856
2	$1,652	1,277	1,915
3	$1,696	1,311	1,966
5	$1,969	1,522	2,282
7.5	$2,130	1,647	2,470
10	$2,504	1,935	2,903
15	$3,091	2,390	3,584
20	$3,739	2,890	4,336
25	$4,508	3,485	5,227
30	$5,666	4,380	6,569
40	$6,436	4,975	7,462
50	$8,194	6,334	9,500
60	$10,717	8,284	12,426
75	$12,509	9,669	14,504
100	$15,677	12,118	18,178
125	$17,937	13,865	20,797
150	$23,025	17,798	26,697
200	$22,867	17,676	26,514

Average % savings [1]	33%
Measure Life (years)	15
Pumping Load Factor	75%
Fan Load Factor	65%
Average Load Factor	70%

1. From Office of Industrial Electric Motor Systems Market Opportunities Assessment : Department of Energy (assessment of 265 Industrial facilities in 1997)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: New Construction

This is a custom product including electric and gas measures. There are three choices of tracks customers may choose to follow. This product is unique in that Xcel relies heavily on expert consultants in the design process; however, we will perform independent project review in accordance with standard engineering methods. Customer may apply for rebate under the New Construction product.

Calculations:

Electrical and gas energy savings and electrical demand savings will be calculated based on the project-specific details. Each project will undergo an engineering review in accordance with standard engineering practices. Prescriptive items within the project will be handled through their respective deemed products.

Assumptions:

Net-to-gross = Electric 90% for the EDA tracks and 93% for the Energy Efficient Buildings track. Gas EDA NTG is 99% and Gas Energy Efficient Building track is 97%. Product requirements are well above code, so we feel free-ridership will be negligible. As code requirements increase, NTG will be increased correspondingly. Gas free ridership will be lower than electric because gas products are new to Colorado.

Transmission-Distribution Loss Factor = 6.50%, the percentage loss of electricity as it flows from the power plant to the customer.

Operation and Maintenance Savings will be calculated for each specific project based on project details.

Life of product is 20 years for gas and electric measures.

Changes from 2011

No Changes

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Process Efficiency

The Process Efficiency Business product targets energy intensive processes at large industrial facilities Customers who implement identified upgrades may receive rebates for large process changes that are not completed through Custom Efficiency or the prescriptive products.

Calculations:

Electrical energy savings,electrical demand savings and gas savings will be calculated based on the methodologies presented in each of the end use products.

A net-to-gross factor of 90% will be used for electric Process Efficency projects.

A transmission distribution loss factor of 6.50% will be used for Process Efficiency projects.

Changes from 2011

No changes

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Recommissioning

Recommissioning is a special product that involves a Study phase and an Implementation phase. The customer may apply for rebate under the Recommissioning product. Each Recommissioning project will be analyzed individually by Xcel Energy. A qualified engineering vendor will perform the study and provide a report and technical calculations to Xcel Energy for review. Analysis will be based on standard engineering methodologies. Customer may also submit for implementation a proposed "Fast Track" project without going through the Recommissioning Study phase, as long as they have performed a study. Recommissioning projects do not have to demonstrate a TRC factor greater than one on a project by project basis. In that regard the product is similar to deemed products. In most other respects it is more of a custom product.

Calculations:

Electric and Gas energy savings and electrical demand savings will be calculated by a study vendor based on the project specific details. Each project will undergo an engineering review by Xcel Energy in accordance with standard engineering practices.

A net-to-gross factor of 90% will be used for Recommissioning projects, based on the following justification: Without having completed a recommissioning study through our product, the customer would not have known about the opportunities. If they would have known about them, they would have done them on their own due to the likelihood they are no/low cost items with very quick paybacks.
A transmission distribution loss factor of 6.50% will be used for recommissioning projects. Reference the Enhanced DSM filing, SRD-2; no significant system changes have been noted since then.

Persistence of the Recommissioning product (product life) is set at 7 years, reference "Recommissioning Persistence - Task 1 Benchmarking Deliverable 040607.pdf"

Changes from 2011
No Change

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Segment Efficiency

This is a custom product that involves an energy and financial analysis of existing facilities. Customer may apply for rebate under the Segment Efficiency product. Each project will be analyzed individually by Xcel Energy. Technical variables required for the analysis will be obtained from the customer or vendor. Analysis will be based on standard engineering methods. Prescriptive rebates may be given for measures identified during the analysis that qualify under prescriptive end use products.

Calculations:

Electrical and gas energy savings and electrical demand savings will be calculated based on the project-specific details. Each project will undergo an engineering review in accordance with standard engineering practices. Where prescriptive elements exist, the calculations will be in accordance with the calculation methodologies detailed in the prescriptive products.

Changes from 2011

No changes.

Assumptions

A transmission distribution loss factor of **6.50**% will be used for custom projects. This is calculated using factors from Enhanced DSM Filing - SRD-2

We will conservatively use NTG for each end use technology as stated in their respective technical assumptions. Actual NTG should be closer to 100% because these customers have historically not participated in the products.

Please see the corresponding programs for inputs that were duplicated here:

Prescriptive Lighting	Used historical CRE particpation
Prescriptive Motors/Drives	Used Prescriptive VFD as representative measure
Prescriptive Cooling	Used 20-60 ton RTU from prescriptive cooling program as representative measure
Custom Lighting	Used measure from Lighting program
Custom Motors/Drives	Used program roll up as listed in prescriptive motors & drives
Custom Cooling	Used measure from Cooling program
EMS (Electric)	Used EMS Technical Assumptions
Custom Custom	Used progam Technical Assumptions
Recommissioning (Electric)	Used RCx program's implementation Technical Assumptions
Heating Efficiency	Used program's Replacement Condensing Boiler; 1MMBTUH measure
EMS (Gas)	Used EMS Technical Assumptions
Custom Custom (gas)	Used progam Technical Assumptions
Recommissioning (Gas)	Used RCx program's implementation Technical Assumptions

Measures such as lighting relied on actual program history for estimates

The CRE Program offers a 130% multiplier to the rebates that are normally offered by other programs.

CRE Rebate Multiplier
130%

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Self-Direct

The Self-Direct product will provide large commercial and industrial customers in Colorado the opportunity to self-fund electric energy conservation projects at their facilities. Customers who engineer, implement, and commission qualifying projects will receive rebates to offset their costs to implement efficient projects.

Calculations:
Electrical energy savings and electrical demand savings will be calculated based on the actual savings from a project.

A net-to-gross factor of 90.6% will be used for Self-Direct projects. The NTG assumption (90.6%) was developed based on the weighted average of the net-to-gross factors determined for individual electric conservation technologies by Energy Efficient Best Practices California. The weighting for technologies was based on the Custom Efficiency projects completed by large Colorado customers from 2006 to 2008.

A transmission distribution loss factor of **6.5**% will be used for Electrical projects.

Measure life and operation and maintenance savings will be calculated for each project.

Changes from 2011
No changes.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Small Business Lighting Efficiency

Prescriptive rebates will be offered for replacement lighting equipment. New Construction rebates will be offered for new facilities or spaces overhauled for a new purpose.
Custom rebates are available for lighting-related improvements that are not prescriptive.

Algorithms:

Electrical Demand Savings (Customer kW)	= (kW_Base - kW_EE) x HVAC_cooling_kWsavings_factor
Electrical Energy Savings (Customer kWh/yr)	= (kW_Base - kW_EE) x Hrs x HVAC_cooling_kWhsavings_factor
Natural Gas Savings (Dth)	= (kW_Base - kW_EE) x Hrs x HVAC_heating_penalty_factor
Lighting Controls -Electrical Energy Savings (Customer kWh/yr)	=(kW connected) x (1-PAF) x Hrs x HVAC_cooling_kWhsavings_factor
Lighting Controls -Electrical Demand Savings (Customer kW)	=(kW connected) x (1-PAF) x HVAC_cooling_kWsavings_factor
Lighting Controls -Natural Gas Savings (Dth)	=(kW connected) x (1-PAF) x Hrs x HVAC_heating_penalty_factor
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

Hrs	= Annual Operating Hours. Hours to be obtained from Table 2. The type of facility is to be supplied by the customer.
kW_Base	= Baseline fixture wattage (kW per fixture) determined from stipulated fixture wattages from Standard Fixture information. Fixture type provided by customer. Table 4-5
kW_EE	= High Efficiency fixture wattage (kW per fixture) determined from stipulated fixture wattages from Standard Fixture information. Fixture type provided by customer. Table 4-5
HVAC_cooling_kWhsavings_factor	= Cooling system energy savings factor resulting from efficient lighting from Table 1. Reduction in lighting energy results in a reduction in cooling energy, if the customer has air conditioning. Existence of air conditioning to be provided by customer.
HVAC_cooling_kWsavings_factor	= Cooling system demand savings factor resulting from efficient lighting from Table 1. Reduction in lighting demand results in a reduction in cooling demand, if the customer has air conditioning. Existence of air conditioning to be provided by customer.
HVAC_heating_kWsavings_factor	= Heating system penalty factor resulting from efficient lighting. Reduction in lighting demand results in an increase in heating usage, if the customer has gas heating. A value of -0.00088738 Dth/kWh given by (Reference 4).

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

CF	= Coincidence Factor, the probability that peak demand of the lights will coincide with peak utility system demand. CF will be determined based on customer provided building type in table 2.
Measure Life	= Length of time the lighting equipment will be operational, see Table 3 for Measure Lifetimes
Baseline Cost	= Cost of the baseline technology. For Retrofit, the cost is $0.00 since the baseline is to continue to operate the existing system. For New Construction, the cost is that of the lower efficiency option. Costs by (Reference **4**) and vendors.
High Efficiency Cost	= Cost of the High Efficiency technology. Costs given in tables 4-6 (Reference 4**,** 8) and vendors**.**
kW connected	Total connected fixture load, determined as the sum of stipulated fixture wattages from Deemed Fixture Table 6.
PAF	Stipulated power adjustment factor based on control type from Table 6.
TDLF	Transmission Distribution Loss Factor = **6.50**%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing SRD-2
NTG	Net-to-gross = 84% for prescriptive measures (Reference 5) and 96% for Custom Efficiency Lighting and Lighting Redesign based on the additional influence.
Incremental operation and maintenance cost	= Other annual savings or costs associated with the electrical savings. For Lighting, this consists of additional natural gas for heating. Methodology given by Reference 2.

Provided by Customer:	**Verified during M&V:**
Number of Fixtures	Yes
Lighting equipment type	Yes
Building type	Yes
Existence of air conditioning	Yes

Assumptions:

- Each replacement lighting fixture is going in on a one-for-one basis for existing fixtures. New construction fixtures are put in on a one-for-one basis instead of lower efficiency options.

- In the Technical Assumptions, one will note that the Operating Hours does not appear, but rather a modified version. The methodology defines kW Savings on the basis of difference in kW with the HVAC Cooling demand factor. The Annual Energy Savings takes into account any heating that has to be added.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 1: HVAC Interactive Factors (Reference 2)

HVAC system	HVAC_cooling_kWhsavings_factor	HVAC_cooling_kWsavings_factor	Heating Penalty	kW/Ton	COP
Heating only	1.00	1.00	Methodology given by Reference 2	-	-
Heating and cooling	1.11	1.33	Methodology given by Reference 2	-	-
Cooler Door Retrofit to LED Secondary Benefits Factor	1.41	1.41	0.000000	1.41	$ 2.49
Freezer Door Retrofit to LED Secondary Benefits Factor	1.59	1.59	0.000000	2.09	$ 1.68

Table 2: Coincident Peak Demand Factors and Annual Operating Hours by Building Type (Reference 1 and 3)

Building Type	CF	Annual Operating Hours
24-Hour Facility	94%	8234
College	71%	5010
Cooler Door Retrofit to LED	94%	Matches Segment
Elemen./Second. School	73%	2080
Freezer Door Retrofit to LED	94%	Matches Segment
Grocery (All) / Big Box Retail (larger than 50,000 SF)	94%	5478
Health	84%	3392
Hospital	84%	4532
Hotel/Motel	51%	2697
Manufacturing	96%	5913
Night Time Exterior (LED Canopy/Soffit Lights Only)	0%	4380
Office	78%	3435
Other/Misc.	96%	2278
Restaurant	94%	4156
Retail	94%	3068
Safety or Code Required (Including Exit Signs)	100%	8760
Traffic Signals	50%	4380
Warehouse	96%	2388

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 3: Measure Lifetimes in Years (Reference 4,6,7)

Measure	Lifetime in Years
LED Interior Lamps	12
LED Interior Fixtures	20
Low Wattage T8 Lamps	8
Ballasted CFLs	18
Integrated 25W Ceramic Metal Halide	7
T8 Lighting Systems	18
T5 Lighting Systems	18
Lighting Controls	18

See Lighting Efficiency file for Tables 4-6

Changes from 2011

Revised Exterior Lighting Hours to 4380 at 0% CF for all Occupancies or Market Segments
Revised Lighting Hours for Cooler & Freezer Doors to match Building Occupancy
Revised Secondary Cooling Benefits for LED case lighting in coolers & freezers to correct previous understimate using Rundquist Method
Normal and High Ballast Choices added for Fluorescent retrofits where appropriate
Canopy Lighting is all energy savings and no coincident kW due to off peak hours of use. Has become 7.5% of custom volume.

References

1. Arkansas Deemed Savings Quick Start Program Draft Report Commercial Measures Final Report, Nexant. CF and hours
2. HVAC Interactive Factors developed based on the Rundquist Simplified HVAC Interaction Factor method for Minnesota, presented on page 28 of the 11/93 issue of the ASHRAE Journal - "Calculating lighting and HVAC interactions".
3. Technical Reference User Manual No. 2004-31, Efficiency Vermont, 12/31/04. CF and Hours
4. Deemed Savings Database, Minnesota Office of Energy Security, 2008. CF, Hours, kW, Costs, Measure life
5. Net-to-Gross factor from 2008 Xcel Energy Lighting Efficiency Program Evaluation
6. LED Lamp measure life based on average 2009 custom project LED life of 45,000 hours / weighted hours of operation average
7. LED Fixture measure life based on Xcel Energy Minnesota Lighting Efficiency Program average replacement fixture lifetime
8. LED Fixture costs based on Xcel Energy Custom Lighting Efficiency project costs

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Standard Offer

Standard Offer utilizes an ESCO, pre-qualified by the Governor's Energy Office, or a Customer-chosen vendor to perform a pre-formatted investment grade audit from which comes a bundled set of measures that the customer, by agreement, must implement. The customer may apply for a rebate under the Standard Offer product or the implementation funding can come from the ESCO. Analysis will be based on standard engineering methodologies. Prescriptive rebates will not be offered in this product.

Calculations:

Electric and Gas energy savings and electrical demand savings will be calculated by an ESCO or a Customer-chosen vendor based on facility-specific details. Each project will undergo an engineering review by Xcel Energy in accordance with standard engineering practices. M&V plans will be required for all Standard Offer projects and must last a minimum of three years.

A net-to-gross factor of 87.6% will be used for electric projects. A net-to-gross factor of 93% will be used for gas projects.

A transmission distribution loss factor of **6.50**% will be used for Standard Offer projects.

Measure life and operation and maintenance savings for Standard Offer projects will be calculated for each project as part of the Technical Energy Audit

Changes from 2011
No changes.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: ENERGY STAR New Homes

Residential natural gas and electric customers receive a cash rebate for implementing ENERGY STAR energy efficiency measures in new homes.

Algorithms:

Bundled measures savings (Customer kW)	= The higher of the summer or winter peak kW savings from REM/Rate model for each house with adjusted baseline by locations seen in Table 1 (below).
Bundled measures savings (Customer kWh)	= Total kWh savings from REM/Rate model for each home with adjusted baseline by locations seen in Table 1 (below).
Bundled measures savings (Gross Dth)	= Total Dth savings from REM/Rate model for each home with adjusted baseline by locations seen in Table 1 (below).
20 CFLs Electric Energy Savings (kWh) and Electric Demand Savings (kW)	= kW savings per replaced bulb is determined by subtracting the manufacturer provided wattage for each CFL from the wattage of the incandescent bulb it replaces. The incandescent wattages will be determined based on the CFL wattage. Hours of operation for residential purchases will be determined by assuming that there are 10 existing CFLs in each home in 2012 and 12 existing CFLs in 2013. The average wattage is reduced from 2012 to 2013 because of the phase-out of incandescant bulbs. Deemed savings are 0.93 kW and 666 kWh in 2012 and 0.8 kW and 540 kWh in 2013.
Clothes washer natural gas savings (Dth) and electric energy savings (kWh)	Energy savings for the clothes washer were based on the ENERGY STAR Clothes Washer Savings Calculator: http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers. This assumed a gas water heater home, so savings are generated for gas and electric. Savings is 1.27 Dth and 77 Kwh.
Dishwasher natural gas savings (Dth) and electric energy savings (kWh)	Energy savings for the dishwasher were based on the ENERGY STAR Dishwasher Savings Calculator: http://www.energystar.gov/index.cfm?c=dishwash.pr_dishwashers. This assumed a gas water heater home, so savings are generated for gas and electric. Savings is 0.88 Dth and 26 kWh.
Refrigerator electric energy savings (kWh)	Energy savings for the refrigerator were based on the ENERGY STAR Refrigerator Savings Calculator: http://www.energystar.gov/index.cfm?c=refrig.pr_refrigerators. Savings is 93 kWh.
Net Dth	= Gross Dth x NTG
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

TDLF	Transmission Distribution Loss Factor = 7.7%, the percentage loss of electricity as it flows from the power plant to the customer.
CF	Coincidence Factor = the probability that peak demand of the lights will coincide with peak utility system demand from Table 2 (below).
NTG	Net-to-Gross Factor as listed in Table 2.
O&M savings	Operation and Maintenance savings = We will assume water savings of $33.63 per year for Clothes Washers and $2.07 per year for Dishwashers.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 1. Baseline HERS Values

Location	Square Footage of Home	Baseline HERS	HERS for Rebate Eligibility
City of Boulder	3,000 and below	70	65
Mountain Areas	All	80	75
Other Areas	All	85	75

- HERS Index must be less than the maximum allowed by code to qualify for a rebate
- Rebate levels and baseline HERS will be adjusted as appropriate to account for codes requiring lower than standard HERS Indices
- No rebates will be given for homes with baseline HERS Indices 60 or lower

Table 2. Measure Life, Cost and Net to Gross (NTG)

Type of measure:	Measure life:	Incremental cost:	Coincidence factor:	NTG (elec):	NTG (gas):
Envelope Measures	20 years (Reference 1)	Incremental costs for envelope measures will be determined based on location, size of house, and HERS index as seen in Table 3.	Coincidence factor will be determined for the bundled measures of each house by dividing the Customer kW by the Summer peak kW reduction, then multiplying by 0.9 to account for probability that the house peak occurs at the same time as the system peak.	92%	92%
CFLs	9.3 years in 2012 and 10.1 years in 2013 (Reference 9)	$55 (Reference 10)	8% (Reference 13)	92%	N/A
Energy Star Clothes washer	11 years (Reference 16)	200 (Reference 14)	4.47% (Reference 14)	92%	92%
Energy Star Dishwasher	11 years (Reference 15)	$30 (Reference 14)	2.45% (Reference 14)	92%	92%
Energy Star Refrigerator	13 years (Reference 14)	$30 (Reference 14)	100.00%	92%	N/A

Table 3. Incremental cost of efficient home over baseline (Reference 17)

HERS Index Level	Outside of Boulder	In Boulder
75 -71	$ 602	N/A
70 - 66	$ 1,517	N/A
65 - 61	$ 3,286	$ 1,769
60 or below	$ 5,187	$ 5,187

* Boulder Code requires homes larger than 3,000 SF to have a HERS Index less than 60 to participate.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Provided by Vendor:
REM/Rate output file including IECC 2006 and as built kW, kWh, and Therms
HERS index
Location and size of house
HERS rating method used
Was each of the four bundled measures installed?
Code maximum HERS Index

Assumptions:
No CFLs exist in the home (new home)

Changes From 2011:
No changes.

References:
1. California Measurement Advisory Committee (CALMAC) Protocols, Appendix F (www.calmac.org/events/APX_F.pdf).
2. 2006 Residential Energy Use Colorado Service Area - Xcel: Bruce Neilson
3. American Housing Survey for Denver - US Census Bureau
4. Xcel Energy CO DSM Potential 2006 - prepared by Kema
5. National Energy Efficiency Best Practices Study - Residential Single-Family Comprehensive Weatherization Best Practices Report from December 2004.
6. RS Means Repair and Remodeling 2007 at a cost of $0.028 per square foot per increase in R-value.
7. National Energy Audit Tool (NEAT) and Frontier estimates.
8. EEBP web site - Tacoma Residential Weatherization program.
9. US Lighting Market Characterization Study performed for the Department of Energy in 2002
10. MEEA/ES Change A Light campaign info
11. Xcel Energy estimate
12. Draft Technical Support Document: Energy Conservation Standards for Residential Furnaces and Boilers, Efficiency Standards for Consumer Products Prepared for US DOE, September 2006
13. California Energy Commission's Database for Energy Efficient Resources (DEER)
14. www.energystar.gov
15. DOE 2007
16. Appliance Magazine, September 2007
17. Incremental cost data are estimates from Residential Science Resources

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Evaporative Cooling

Prescriptive rebates will be offered for the purchase and installation of evaporative coolers. Three tiers of rebates are offered based on the Evaporative Efficacy of the unit and the type of media. The rebates and analyses are based on a nominal 3 ton cooling load. Tier 1 units are standard efficiency evaporative coolers. Tier 2 units are high efficiency evaporative coolers (see assumptions for details). Tier 3 is an integrated HVAC system rebate that compares the "whole house" conventional HVAC with an integrated heating and evaporative cooling system in new homes or homes with major remodeling. Credit will be calculated based on the number and type of units installed, the type of the existing unit and the location of the home

Algorithms:

Tier 1: 13 SEER 3 Ton to Tier 1 evap cooler savings:

Energy Savings (Customer kWh) Front Range	= 13 Seer 3 Ton - Tier 1 Evaporative cooling energy = (1,358 - 403) kWh = 955 kWh
Demand Savings (Customer kW) Front Range	= 13 Seer 3 Ton - Tier 1 Evaporative cooler demand = (3.220 - .388) kW =2.83 kW
Energy Savings (Customer kWh) Western Slope	= 13 Seer 3 Ton - Tier 1 Evaporative cooling energy = (1,581 - 191) kWh = 1,096 kWh
Demand Savings (Customer kW) Western Slope	= 13 Seer 3 Ton - Tier 1 Evaporative cooler demand = (3.220 - .388) kW = 2.83 kW

Tier 2: 13 SEER 3 Ton to Tier 2 evap cooler savings:

Energy Savings (Customer kWh) Front Range	= 13 Seer 3 Ton - Tier 2 Evaporative cooling energy = (1,358 - 164) kWh = 955 kWh
Demand Savings (Customer kW) Front Range	= 13 Seer 3 Ton - Tier 2 Evaporative cooler demand = (3.220 - .388) kW =2.83 kW
Energy Savings (Customer kWh) Western Slope	= 13 Seer 3 Ton - Tier 2 Evaporative cooling energy = (1,581 - 191) kWh = 1,096 kWh
Demand Savings (Customer kW) Western Slope	= 13 Seer 3 Ton - Tier 2 Evaporative cooler demand = (3.220 - .388) kW = 2.83 kW

Tier 3: 13 SEER 3 Ton HVAC to Integrated Evap Cooler

Energy Savings (Customer kWh) Front Range	= 13 Seer 3 Ton - Whole house evap energy = (1,358 - 320) kWh = 567 kWh
Demand Savings (Customer kW) Front Range	= 13 Seer 3 Ton - Whole house evap demand =(3.220 - .760) kW = 2.46 kW
Energy Savings (Customer kWh) Western Slope	= 13 Seer 3 Ton - Whole house evap energy = (1,581 - 373) kWh = 629 kWh
Demand Savings (Customer kW) Western Slope	= 13 Seer 3 Ton - Whole house evap demand = (3.220 - .760) kW = 2.46 kW

Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	=Cust_kW * CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

13 Seer 3 Ton A/C energy	=Energy use of 13 SEER 3 Ton AC unit = 1,358 kWh - Front Range: 1,581kWh - Western Slope
13 Seer 3 Ton A/C demand	=Demand of 13 SEER 3 Ton AC unit = 3.22 kW
Tier 1 Evaporative cooler energy	= Motor HP x 0.746 x Load Factor / Motor Eff x OpHr = 403 kWh Front Range, 485 kWh Western Slope
Tier 1 Evaporative cooler demand	= Motor HP x 0.746 x Load Factor / Motor Eff = 0.388 kW
Tier 2 Evaporative cooler energy	= Motor HP x 0.746 x Load Factor / Motor Eff x OpHr = 403 kWh Front Range, 485 kWh Western Slope
Tier 2 Evaporative cooler demand	= Motor HP x 0.746 x Load Factor / Motor Eff = 0.388 kW
Tier 3 Evaporative cooler energy	= Motor HP x 0.746 x Load Factor / Motor Eff x OpHr = 791 kWh Front Range, 952 kWh Western Slope
Tier 3 Evaporative cooler demand	= Motor HP x 0.746 x Load Factor / Motor Eff = 0.760 kW

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Ref_air_energy	= Modeled hourly energy use of home with 3 ton 13 SEER standard AC unit in Denver using ESPRE. = Front Range 1,358 kWh (Reference 1) & Western Slope 1,581 kWh
Ref_air_demand	= Btuh/EER x 1000. We will use 3.22 kW (Reference 2)
MotorHP	Motor Horsepower - We will use 0.52 hp for tier 1 units. We will use 0.52 hp for tier 2 units and 1.02 Hp for tier 3 units represent the motor size for an evaporative cooler which corresponds to the cooling output of a 3 ton AC unit. (Reference 5)
0.746	Standard conversion from HP to kW
Load Factor	Load factor for motor - We will use 80% for tier 1 and 80% on high and 10% on low for tier 2.
Motor Eff	Efficiency of the evaporative cooler motor - We will use 80% (Reference 3)
CF_AC	= Coincidence factor for the refrigerated air system, the probability that peak demand of the AC unit will coincide with peak utility system demand. 0.7 will be used. (Reference 5)
OpHr	Operating hours of the evaporative cooler fan motor - We will use 1040 for Front Range and 1251 for Western Slope from Cadmus recommendations (Reference 5)
TDLF	Transmission-Distribution Loss Factor = 7.70%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing SRD-2
NTG	Net-to-Gross Factor = We will use 52% for tier 1 evaporative cooling, and 59% for tier 2 and 100% for tier 3. (Reference 5)
Incremental Costs	= Incremental cost of efficient technology over baseline technology. Values listed in Table 1
O&M savings	= Operation and Maintenance savings related to water use are listed in Table 2.
Measure Life	= 15 years (Reference 5)

Table 1. Incremental Cost of Evaporative Coolers (Reference 6,7,8)

		Baseline	HE Cost	Incremental
Tier 1	13 Seer AC to Evap	4,329	1,022	$ (3,307)
Tier 2	13 SEER AC to HE Evap	4,329	1,989	$ (2,340)
Tier 3	13 SEER AC to Whole House Evap	4,329	7,542	$ 3,213

Table 2. Operation and Maintenance Savings (Reference 9)

Base System	New System	O&M Savings
13 Seer 3 Ton A/C	Standard Evap Cooling (Tier 1)	$ (10.26)
13 Seer 3 Ton A/C	High Efficient Evap Cooling (Tier 2)	$ (6.77)
13 Seer 3 Ton A/C	Integrated whole house evap cooling (Tier 3)	$ (6.77)

Provided by Customer:
Type of unit installed (Tier 1 or Tier 2) or installation type (Tier 3).

Verified during M&V
Yes

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Assumptions:
The installed unit is assumed to have a 3/4 hp motor (commonly available unit).
Qualifying equipment must be new and be a permanently installed direct (Tier 1 or 2), indirect or two-stage evaporative cooling unit. Portable coolers or systems with vapor compression equipment are not eligible, nor is used or reconditioned equipment.
Tier 1: Qualifying evaporative cooling units must have a minimum Industry Standard Rated airflow of 2,500 CFM
Tier 2: Qualifying evaporative cooling units must meet tier 1 requirements and additionally have a minimum Media Saturation Effectiveness of 85%. The units must be installed with a remote thermostat and a periodic purge water control.
Tier 3: Integrated HVAC system rebate that compares the "whole house" conventional HVAC with an integrated heating and evaporative cooling system in new homes or homes with major remodeling. Tier 3 evaporative cooling units must be indirect or indirect/direct combination units. Units utilizing only direct cooling units do not qualify for Tier Baseline equipment in the incremental analysis was revised to accurately reflect the alternatives that customers consider when installing evaporative air conditioning compared to refrigerated air conditioning

The technical assumptions for the Evaporative Cooling Rebate product were developed assuming that a standard 13 SEER central air conditioning system was replaced or displaced by either a standard evaporative cooling system or a high efficiency evaporative cooling unit with the same capacity. These units have a measure life of 10 years. The NTG for the Tier 1 evaporative coolers is 59.7%. This was determined in the 2006 Summit Blue Consulting report. The NTG for the Tier 2 evaporative coolers is assumed to be 100% due to the low market participation. The average of these two numbers (80%) will be used for the Evaporative Cooling Rebate product.

Changes from 2011:
None

References:
1. ESPRE 2.1 engineering model: Simplified energy analysis methods for residential buildings
2. Building America, Research Benchmark Definitions, Pg 9, http://www.eere.energy.gov/buildings/building_america/pdfs/37529.pdf
3. Average motor efficiency for 0.75 hp motor from NEMA, http://www.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/small_motors_tsd.pdf
4. Kinney, Larry. New Evaporative Cooling Systems: An Emerging Solution for Homes in Hot Dry Climates with Modest Cooling Loads. SWEEP 2007
5. 2010 Cadmus program review
6. Baseline 13 SEER 3 ton unit costs from a survey of vendors by Xcel in 2011
7. http://www.google.com/products?q=home+depot+evaporative+cooler+cost&ie=UTF-8&oe=utf-8&rls=org.mozilla:en-US:official&client=firefox-a&um=1&sa=X&oi=product_result_group&resnum=1&ct=title
8. http://www.toolbase.org/TechInventory/techDetails.aspx?ContentDetailID=750: "A two-stage evaporative cooler with a cooling capacity equivalent to a three-ton conventional system retails for about $1,800." The California Energy Commission states that installation costs are equivalent to refrigerated air systems, so only equipment cost is included in this analysis (http://www.consumerenergycenter.org/home/heating_cooling/evaporative.html: "Installation costs of swamp coolers are comparable to air conditioning units").
9. SWEEP 2007 Report. O&M Savings based on manufacturers water use data and an assumed $3.82/thousand gallons cost for water (Denver Water Board).

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Heating System Rebates

Residential natural gas customers receive a cash rebate for purchasing high-efficiency heating equipment.

Algorithms:

Furnace from AFUE 78% to 92% (Tier 1): Natural gas savings (Gross Dth)	Energy savings for the gas furnace were calculated in EnergyGauge using a baseline home model calibrated to typical home size and characteristics for the Denver area (see below for characteristics) = 9.8 Dth
Furnace from AFUE 78% to 94% (Tier 2): Natural gas savings (Gross Dth)	Energy savings for the gas furnace were calculated in EnergyGauge using a baseline home model calibrated to typical home size and characteristics for the Denver area (see below for characteristics) = 11 Dth
84% boiler natural gas savings (Gross Dth)	Energy savings for the gas boiler were calculated in EnergyGauge using a baseline home model calibrated to typical home size and characteristics for the Denver area (see below for characteristics) = 3.0 Dth
Net Dth	= Gross Dth x NTG

Variables:

NTG	Net-to-Gross Factor = We will use 77% (Reference 6)
Measure life	= 18 years (Reference 5)

Incremental cost:

High-efficiency furnace rated at an AFUE of 92 is $450. (Reference 1)
High-efficiency furnace rated at an AFUE of 94 is $505. (Reference 1)
High-efficiency boiler rated at an AFUE of 84 is $440. (Reference 1)

Provided by Customer:
Efficiency of new unit (Furnace 92%, 94% - Boiler 84%)

Verified during M&V:
Yes

Changes From 2011:
No changes.

Building Characteristics for Prototype Home Used for Modeling:

Single Family
Two story (Reference 3)
3 bedroom 2 bathroom (Reference 3)
2000 square feet (Reference 3)
Basement foundation (Reference 3)
HVAC:
- heating - gas furnace 78 AFUE (55.9 kBtu unit required) - 85% of homes have gas heating, and 78% of which are forced air furnaces (Reference 2)
- cooling - 59% have Central Air Conditioning model required a 2.5 ton unit to meet the cooling load (Reference 2)
- air handler is in the basement and supply ducts and return ducts are assumed to be in majority interior space

Windows:
- 61% of homes have double pane windows (Reference 2)
- double pane low-E are standard (Reference 4)
- Model assumes 15% of wall area glazing
- applied a u-factor of 0.53 (average between clear glass double pane and low-E)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Insulation Levels:
Existing Ceiling Insulation: R-19 (Reference 4)
Existing Wall Insulation: R-11 (Reference 4)
Basement Assumptions
Assumed basement walls to have R-11 insulation
Basement is considered finished space but not conditioned
The air handler is located in the basement
Some homes will have smaller sections of the basement conditioned – maybe a bonus room etc, however this cannot be easily modeled in EnergyGauge
Appliances (Reference 2)
85% have dishwashers
74% electric ranges
88% and 89% have clothes washer and dryer (electric)
85% water heating is gas - model used a 40 gallon storage tank
68% of homes have ceiling fans
Average Customer Energy Consumption: (Reference 2)
kWh annually: 9,000 roughly for a 2,000 square foot home
Therms annually: 835

Assumptions

For the Heating System Rebate product, the incremental costs are limited to the cost of new equipment (not installation costs). Since the furnace or boiler will be replaced regardless of the efficiency rating of the unit, and assuming no additional required ductwork, installation and equipment rental costs do not apply.

References:

1. California Energy Commission's Database for Energy Efficient Resources (DEER) http//www.energy.ca.gov/deer
(Does not include labor of equipment rental fees as this measure is considered a replace on burnout)
2. 2006 Residential Energy Use Colorado Service Area - Xcel: Bruce Neilson
3. American Housing Survey for Denver - US Census Bureau
4. Xcel Energy CO DSM Potential 2006 - prepared by Kema
5. Draft Technical Support Document: Energy Conservation Standards for Residential Furnaces and Boilers, Efficiency Standards for Consumer Products: Residential Central Air Conditioners And Heat Pumps, Prepared for US DOE, September 2006
6. Summit Blue 2006 Midwest Residential Market Assessment and DSM Potential Study.
7. Baseline costs from RS MEANS Repair and Remodeling Cost Data 2007

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: High Efficiency Air Conditioning

Prescriptive rebates will be offered for new cooling equipment. Rebates for most measures are dependent on size and on meeting a minimum efficiency. Plan A is defined as central air conditioning (CAC) systems installed in new homes, existing homes without CAC systems or homes with CAC systems that are inoperable or unrepairable. Plan B is for existing CAC systems that are operable or made operable for a reasonable cost ($500 to $1500). The equations for calculating savings are identical between Plan A and Plan B, but the baseline unit efficiencies are different as described below. Ground Source Heat Pumps will be rebated with a Quality Install (appropriate for GSHP) in new homes or when replacing electric resistance heating equipment in existing homes.

Algorithms:

Conversions:

Seasonal Energy Efficiency Ratio (SEER)	= Total seasonal cooling output (kBtuh) / Total electrical input (kWh); for estimating seasonal performance
Energy Efficiency Ratio (EER)	= Rated cooling output (kBtuh) / Rated electrical input (kW) for equipment tested at 95F estimating peak cooling performance; EER = -0.02 x SEER^2 + 1.12 x SEER . This equation relating EER to SEER applies to all equipment in this product, and will be used if EER rating is not available. (Reference 1)
kW/ton	= 12 / Energy Efficiency Ratio
Coefficient of Performance (COP)	= EER / 3.413 or, EER = 3.413*COP
Coefficient of Performance (COP) Heating	= Heat Energy Output (Btu) / Energy Input to Compressor (Btu)
For Split System Air Conditioners and Air Source Heat Pumps and Ground Source Heat Pumps	
New Equipment Electrical Energy Savings (Customer kWh)	= Size x EFLH x (12/SEER_Standard - 12/SEER_Eff) / (1-Loss_No_QI)
New Equipment Electrical Demand Savings (Customer kW)	= Size x (12/EER_Standard - 12/EER_Eff)
Quality Install Electrical Energy Savings (Customer kWh)	= Size x EFLH x (12/SEER_Eff) x (1/(1-Loss_No_QI) - 1/(1-Loss_QI))
Quality Install Electrical Demand Savings (Customer kW)	= Size x (12/EER_Eff) x (1 - ((1-Loss_No_QI) / (1-Loss_QI)))
GSHP Cooling Electrical Energy Savings (Customer kWh)	=(GSHP_Size/2) x EFLH (12/SEER_Standard - 12/GSHP_SEER) / (1-Loss_No_QI)
GSHP Cooling Electrical Energy Savings (Customer kW)	=GSHP_Size x (12/EER_Standard - 12/GSHP_EER)
GSHP Heating Electrical Energy Savings (Customer kWh)	=GSHP_Size x GSHP_EFLHH x (12/EER_Standard - 12/GSHP_EER) / (1-Loss_No_QI)
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG
Present Value ($)	=Future Value * (1+rate) ^ (number of periods * -1)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Variables:

Size	= The new equipment capacity in tons, provided by customer
EFLH	= Equivalent Full Load Hours. The Equivalent number of hours that equipment would be running at Full Load over the course of the year. We will use 490.4 EFLH which was determined by modeling a home in Denver with a 3 ton 13 SEER AC unit. The resulting kWh were divided by the connected load to derive the EFLH value. Modeling used ESPRE simulation model which is an EPRI product.
GSHP_EFLHH	= Ground Source Heat Pump Equivalent Full Load Hours Heating: The equivalent number of hours that GSHP equipment would be running at Full Load over the course of the year for heating. We will use 846 EFLH for new homes and 1,419 for existing homes. GSHP EFLHH was determined by REMRATE modeling of a new and an existing home adjusted for Denver Degree Days. The resulting kWh were divided by the connected load to derive the EFLHH value.
SEER_Standard (Plan A)	= Seasonal Energy Efficiency Ratio of standard equipment, based upon the minimum Federal standard for efficiency as manufactured. For residential AC units, we will use 13 SEER.
SEER_Standard (Plan_B)	= Seasonal Energy Efficiency Ratio of existing equipment based upon the minimum Federal standard for efficiency manufactured between 1992 and 2006. For existing residential AC units, we will use 10 SEER.
SEER_Eff	= Seasonal Energy Efficiency Ratio of High Efficiency equipment that the customer will install, provided by the customer
EER_Standard (Plan_A)	= EER of standard equipment, based upon the minimum Federal acceptable efficiency. We will use 11.18 based on the federal standard 13 SEER and the conversion listed above.
EER_Standard (Plan_B)	= EER of existing equipment, based upon the 1992 to 2006 minimum Federal acceptable efficiency. We will use 9.2 based on the federal standard 10 SEER and the conversion listed above.
EER_Eff	= EER of High Efficiency that the customer will install, provided by customer. If value is not provided by the customer we will use the conversion listed above.
GSHP_EER	= EER of High Efficiency that the customer will install, provided by customer.
GSHP_SEER	**= EER/0.95**
Standard_COP	= Coefficient of Performance of electric resistance heater = 1.00 The COP of an airsource heatpump in an existing home = 2.0 The COP of an airsource heatpump in a new home = 3.1.
GSHP_COP	= Coefficient of Performance of GSHP equipment that the customer will install, provided by the customer. We will use COP if EER is not available. Baseline GSHP COP assumed to be 3.1
GSHP_Size	=Size of Ground Source Heat Pump, provided by customer. We will divide size by 2 for GSHP cooling calculations based on REMRATE modeling of a new and an existing home adjusted for Denver Degree Days. The resulting kWh were divided by the connected load to derive the EFLHH value.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Loss_No_QI	Efficiency of unit lost due to improper installation. This is the Baseline condition for Quality Installations. We will use 30.5% which is the summation of the following losses: Equipment sizing = 3%, Refrigeration Charge = 13%, Improper air flow = 7%, Duct leaks = 7.5%. The losses for heating are only the duct leakage losses (7.5%)
Loss_QI	Efficiency of unit lost due to improper installation. All non-QI losses will be eliminated with quality install in a new home so the Loss_QI for a new home will be 0. In existing homes and all Plan B installations, all non-QI losses will be eliminated except for the duct leakage losses. Duct leakage losses in an existing home will be cut in half resulting in a Loss_QI for existing homes of 3.75%. Savings will be reduced for quality installation according to the percentages above when it is determined through M & V that one or more facets of quality installation (equipment sizing, refrigeration charge, proper airflow, duct leakage) fall outside the acceptable range according to industry standards.
CF	= Coincidence Factor, the probability that peak demand savings will coincide with peak utility system demand. 0.90 will be used for prescriptive AC rebates. For GSHP .50 will be used.
Measure Life	Measure life is taken at 14 years for all Plan A cooling equipment, 7 years for all Plan B cooling equipment, and 7 years for Quality Installations (Reference 2). Plan Life for GSHP is 20 years (Reference 3).
TDLF	Transmission-Distribution Loss Factor = 7.69%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing SRD-2
NTG	Net-to-gross; we will use 89% for AC units which is calculated from historical A/C sales data for 2007. We will use 100% for GSHP.
Future Value	Estimated cost of the standard replacement equipment at expected end of life of current equipment
Rate	Assumed interest rate. 7.88% used for discounting the future purchase price and 2.57% used for inflation to calculate the future purchase price based on current cost.
Number of Periods	Number of years expected until existing equipment end of life
Incremental operation and maintenance cost	= 0 - conservative approach, taking no credit for improved mean time between failure.
Incremental Capital Cost	Incremental cost of efficient equipment. Values listed in table 1 below. Values will be scaled for different equipment sizes. Plan A and Plan B incremental capital costs include $200 for quality install.
Plan B Baseline Cost	inflation rate. The inflated value was then discounted back to present value using Xcel's Weighted Average Cost of Capital for Colorado. An average repair cost of $750 was then added to the present value to arrive at the baseline cost used to establish the incremental costs for the various options. See Table 2 for calculations.
GSHP Incremental Cost Split	Incremental Costs were split according to percentage of annual energy used for heating (81%) and percentage of annual a energy used for cooling (19%).
Federal Tax Incentive:	30% of installed Cost of Energy Star Certified GSHP

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 1. Incremental Capital Costs

Unit Description	Current Year Purchase Price	Baseline Plan A Cost	Incremental Plan A Cost	Baseline Plan B Cost	Incremental Plan B Cost
13 SEER 3 ton unit	$ 4,329	NA	NA	NA	NA
14 SEER 3 ton unit	$ 4,948	NA	NA	$ 3,949	$ 999
14.5 SEER 3 ton unit	$ 5,050	$ 4,329	$ 721	$ 3,949	$ 1,100
15 SEER 3 ton unit	$ 5,222	$ 4,329	$ 893	$ 3,949	$ 1,272
16 SEER 3 ton unit	$ 5,569	$ 4,329	$ 1,240	$ 3,949	$ 1,619
17 SEER 3 ton unit	$ 6,002	$ 4,329	$ 1,673	$ 3,949	$ 2,052
18 SEER 3 ton unit	$ 6,435	$ 4,329	$ 2,107	$ 3,949	$ 2,486
GSHP 14.1 EER 3.4 ton unit*	$ 9,770	$ 6,251	$ 3,520		
GSHP 14.1 EER 6 ton unit*	$ 16,790	$ 6,448	$ 10,342		

* Current Year Purchase Price for GSHP units is discounted by Federal Tax Incentive.

Incremental costs for unit sizes not listed will be interpolated/extrapolated from listed values

Incremental costs for GSHP to High Efficient GSHP will use the incremental cost table for standard A/C Units. This is due to a GSHP to HE GSHP the loop cost are the same so that cost is ignored. When the baseline system has electric resistance heat or is an air source heat pump the cost for the ground loop is included. The cost to install a GSHP loop is approximately $2,005 per ton.

Provided by Customer: Plan A and Plan B	Verified during M&V
New cooling equipment type	Yes
New cooling equipment size (tons)	Yes
New cooling equipment efficiency (SEER, EER)	Yes
Type of home (Existing or New Construction)	Yes
Type of Existing Heating system (GSHP)	Yes
Provided By Installing Contractor: Plan B or GSHP	
Make, model and serial number from existing condensing unit	
Unit SEER and/or EER rating or COP for GSHP as given by the manufacturer	
M&V Process	
Evidence of Manual J load cal'cs and equipment sizing	Yes
Acceptable refrigerant charge	Yes
Acceptable air flow at coil	Yes
Acceptable range of duct leakage	Yes

Table 2. Plan B baseline present value

Discount Rate		7.88%
10 Yr. Avg. Inflation Rate		2.57%
SEER=	13	3 Ton Unit
2009 Cost=	$ 4,329	Inc. Cost
2010	$ 4,440	$ 4,440
2011	$ 4,554	$ 4,222
2012	$ 4,671	$ 4,014
2013	$ 4,792	$ 3,816
2014	$ 4,915	$ 3,629
2015	$ 5,042	$ 3,450
2016	$ 5,171	$ 3,281
2017	$ 5,304	$ 3,119

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Assumptions:
Baseline equipment meets applicable minimum Federal standards for efficiency
Baseline equipment installation (for QI) has 30.5% efficiency losses.
Baseline equipment installation in Existing Homes has 26.75% efficiency losses
High efficiency equipment exceeds minimum Federal standards for efficiency
Installed equipment does not operate at optimum efficiency until a Quality Installation is completed.
To qualify for a rebate, each piece of equipment must meet the minimum EER and SEER requirements. The customer should provide both the EER and SEER values for the particular piece of equipment. If the customer is unable to provide both values, the value(s) not provided will be calculated using the equations shown above. If a value is not provided by the customer, the calculated value still must meet the minimum requirement.
10-year Average Inflation Rate = 2.57% (InflationData.com)
CO Weighted Average Cost of Capital = 7.88%
Average Cost of Central AC Repair=$750 (EEBC)
Federal Tax Incentive: As part of the American Recovery and Reinvestment Act of 2009 a Federal Tax Incentive of 30% of the installed cost of a new Ground Source Heat Pump system is available to taxpayers through 2016.
GSHP New Home REMRATE Modeling = Larger , more tightly built, better insulated new home was modeled with GSHP COP of 3.3
GSHP Existing Home REMRATE modeling = Smaller, less tightly built, poorly insulated existing home was modeled with GSHP of 3.3.
GSHP Installed Loop Cost/Ton = $2004 per loop per Ton
GSHP Baseline Equipment Cost combines AC unit and electric resistance heating
GSHP appropriate Quality Install savings included in modeling
No Heating kW saving are claimed for GSHP during winter, only summer cooling kW savings are claimed.

Changes from 2011:
No changes

References:
1. Building America, Research Benchmark Definitions, p. 9
2. ASHRAE, 2007, Applications Handbook, Ch. 36, table 4, Comparison of Service Life Estimates
3. http://www.energysavers.gov/your_home/space_heating_cooling/index.cfm/mytopic=12640 (indoor components up to 25 years; ground loop =50 years)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Home Lighting & Recycling

Home Lighting product encourages the purchase of compact fluorescent lamps (CFLs) and Light Emitting Diodes (LEDs) and recycling of all fluorescent lamps.

Algorithms:

Electrical Energy Savings (Customer kWh)	=Number_of_Bulbs x (kW_Savings_per_Bulb) x Hours
Electrical Demand Savings (Customer kW)	=Number_of_Bulbs x (kW_Savings_per_Bulb)
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG x Realization Rate
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG x Realization Rate

Variables:

Number_of_Bulbs	= Number of bulbs sold
kW_Savings_per_Bulb	= kW savings per replaced bulb. We will subtract the manufacturer provided wattage for each CFL from the wattage of the incandescent bulb it replaces. The incadescent wattages will be determined based on the CFL wattage as seen in Table 1.
Hours	= Hours of operation per year for the bulb. Hours of operation for residential purchases will be determined by assuming that there are 10 existing CFLs in each home in 2012 and 12 in 2013. Table 2 is used to determine the hours of operation. Hours of operation for non-residential purchases are 3,141 hours. 94% of all bulbs purchased are assumed to be residential and 6% are assumed to be non-residential. 2012 Hrs = 870, 2013 Hrs = 864
CF	= Probability that peak demand of the bulb will coincide with peak utility system demand. 0.08 will be used for all residential CFLs\LEDs based on Reference 1. 0.846 will be used for all non residential CFLs\LEDs.
Measure Life	= Measure life for the average CFL sold will be 7.42 years in 2012 and 7.49 years in 2013 LED's will be 20 years for 2012 and 2013
TDLF	Transmission Distribution Loss Factor = 7.7%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing SRD-2
Incremental Cost of Bulbs	= From Table 3 (Ref 3)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Net-to-Gross Factor	= We will use 90% for residential CFL's and 100% for residential LED's
Realization Rate	= Future savings for bulbs purchased and put in storage and installed in later years. The net present value of the saving for all bulbs purchased = 99% of the savings if all bulbs are installed when purchased (Reference 5)
O&M savings	= Operation and Maintenance savings are assumed to be zero.

Provided by product Vendor:
Number and type of bulbs purchased

Verified during M&V:
Yes

Assumptions:
Average house in CO already has 10 CFLs installed for 2012 and 12 for 2013 (Based on historic data)

The technical assumptions for the Home Lighting & Recycling Product center around the hours of operation and penetration rates of the technology within the given area. Public Service assumes customers will replace the lamps that they use more frequently first. Therefore, as the number of lamps replaced in a house increases, the hours of operation per year for each new lamp will decrease over time. Table 2 below details the relationship between the number of lamps replaced and hours of operation. For forecast purposes, Public Service assumes that ten CFLs are already installed in the house and uses 870 hours of operation per year for its savings calculations.

For forecasting purposes, Public Service assumes that the measure life for a CFL\LED is inversely related to the annual operating hours, and therefore, should be calculated by dividing the operational life of the lamp by the annual operating hours.

Table 1 - Existing lighting wattage for residential lights (Reference 1,5)

CFL Wattage Range	LED Wattage	Replaced Incandescent Bulb Wattage
9 - 12	8.1	40
13 - 16	12.52	60
17 - 23	n/a	75
24 - 30	n/a	100
31 - 52	n/a	150

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 2 - Average hours for newly installed bulbs

Total Number of Bulbs in the House	Newly Purchased Bulbs 2012 (2013)	Per Bulb Hours	Total Hours for Newly Installed Bulbs	Average Hours of Newly Installed Bulbs 2012	Average Hours of Newly Installed Bulbs 2013
1	-	1210	NA	NA	NA
2	-	1210	NA	NA	NA
3	-	1210	NA	NA	NA
4	-	1210	NA	NA	NA
5	-	1210	NA	NA	NA
6	-	1027	NA	NA	NA
7	-	1027	NA	NA	NA
8	-	1027	NA	NA	NA
9	-	1027	NA	NA	NA
10	-	888	NA	NA	NA
11	1	888	2803	888	NA
12	2	864	3667	876	NA
13	3 (1)	864	4531	872	864
14	4 (2)	864	5395	**870**	864
15	5 (3)	864	6259	869	864
16	6 (4)	864	7123	868	**864**
17	7 (5)	864	7987	867	864
18	8 (6)	829	8816	863	858
19	9 (7)	772	9588	853	846
20	10 (8)	772	10360	845	837

Table 3 - Average Cost Table	**CFLs**	LEDs	
Gross Retail	$3.23	$37.97	per bulb
Baseline	$0.50	$0.50	
Incremental	$2.73	$37.47	
Rebate	$1.15	$10.00	
Net Retail	$1.58	$27.47	

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Changes from 2011:
10 CFLs are assumed to be existing in homes for 2012 and 12 CFLS for 2013
Life of the CFL is less at 7.42 for 2012 and 7.49 in 2013
LED's added to program

References:
1. CFL METERING STUDY FINAL REPORT, Prepared for: Pacific Gas & Electric Company, San Diego Gas & Electric Company, Southern California Edison Company, 2005 - Composite wattages and coincidence factor
2. US DOE, US Lighting Market Characterization, Navigant Consulting, 2002. Annual operating hours
3. Cost Data Source: 2006 MEEA Change A Light Change the World Program for 15W and 26W lamps. These costs are an upper boundary as lamp prices are significantly lower for more common 13W lamps (vast majority of residential lamps), and all lamp prices decrease.
4. Deemed Savings Database, Minnesota Office of Energy Security, 2008. CF, Hours, kW, Costs
5. "Colorado Home Lighting Program Process and Impact Evaluation Report", Dec. 18, 2009, Prepared by CADMUS Group, Inc. and Nexus Market Research, Inc.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Home Performance with ENERGY STAR Rebates

Residential natural gas and electric customers receive a cash rebate for implementing multiple energy efficiency improvements.

Envelope Algorithms:

Attic insulation and bypass sealing natural gas savings (Dth)	= (1 / (2 +Attic_Pre_R) - 1 / (2+Attic_Post_R)) x Attic SF x Dth_Per_SF_Attic
Attic insulation and bypass sealing electric savings (Heating and Cooling) - Customer kWh	= (1 / (2 +Attic_Pre_R) - 1 / (2+Attic_Post_R)) x Attic SF x (Heating_kWh_Per_SF_Attic + Cooling kWh_Per_SF_Attic)
Attic insulation and bypass sealing savings - Customer kW	= Customer kWh / Hours_Electric
Air sealing and weather-stripping natural gas savings (Dth)	Energy savings for the air sealing and weather-stripping were calculated with Energy Gauge modeling software for CO Reference home model with typical home characteristics, calibrated to match energy use for the area and using resistance electric heating. 25% reduction = 7.4 Dth
Air sealing and weather-stripping savings - (Heating and Cooling) - Customer kWh	Energy savings for the air sealing and weather-stripping were calculated with Energy Gauge modeling software for CO Reference home model with typical home characteristics, calibrated to match energy use for the area. Values are listed in Table 1 for various heating and cooling options. Values represent a 25% reduction in ACH from 0.60 to 0.45 and a reduction of 0.15 ACH.
Wall insulation natural gas savings (Dth)	= Dth_Per_SF_Wall x Wall_SF
Wall insulation savings (Heating and Cooling) - Customer kWh	= kWh_Per_SF_Wall x Wall_SF

Lighting Algorithms:

CFL savings_Customer kW	= (kW_Bulb_Existing - kW_Bulb_New) x (#_CFL_After - #_CFL_Before)
CFL savings_Customer kWh	= CFL savings_Customer kW x CFL_Hours

Thermostat Algorithms:

Setback thermostat natural gas savings (Gross Dth)	= Total_Heat_Losses_New x 1% / Effn

Heating System Algorithms:

New HE Furnace or boiler natural gas savings (Gross Dth)	= Total_Heat_Losses_Old x (Effn - Effo) / (Effn x Effo)

Water Heater Algorithms:

High efficiency water heater natural gas savings (Gross Dth)	= Total_water_heat_output x (EFn - EFo) / (Efn x Efo)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Appliance Algorithms:

Dishwasher and Clothes Washer natural gas savings (Gross Dth) and electric energy savings (kWh)	= Appliance_Electric_Savings + (Hot_Water_Savings / Efn)

Evap Algorithms:

Tier 1: 13 SEER 3 Ton to Tier 1 evap cooler savings:

Energy Savings (Customer kWh) Front Range	= 13 Seer 3 Ton - Tier 1 Evaporative cooling energy = (1,358 - 403) kWh = 955 kWh
Demand Savings (Customer kW) Front Range	= 13 Seer 3 Ton - Tier 1 Evaporative cooler demand = (3.220 - .388) kW =2.83 kW
Energy Savings (Customer kWh) Western Slope	= 13 Seer 3 Ton - Tier 1 Evaporative cooling energy = (1,581 - 191) kWh = 1,096 kWh
Demand Savings (Customer kW) Western Slope	= 13 Seer 3 Ton - Tier 1 Evaporative cooler demand = (3.220 - .388) kW = 2.83 kW

Tier 2: 13 SEER 3 Ton to Tier 2 evap cooler savings:

Energy Savings (Customer kWh) Front Range	= 13 Seer 3 Ton - Tier 2 Evaporative cooling energy = (1,358 - 164) kWh = 955 kWh
Demand Savings (Customer kW) Front Range	= 13 Seer 3 Ton - Tier 2 Evaporative cooler demand = (3.220 - .388) kW =2.83 kW
Energy Savings (Customer kWh) Western Slope	= 13 Seer 3 Ton - Tier 2 Evaporative cooling energy = (1,581 - 191) kWh = 1,096 kWh
Demand Savings (Customer kW) Western Slope	= 13 Seer 3 Ton - Tier 2 Evaporative cooler demand = (3.220 - .388) kW = 2.83 kW

Tier 3: 13 SEER 3 Ton HVAC to Integrated Evap Cooler

Energy Savings (Customer kWh) Front Range	= 13 Seer 3 Ton - Whole house evap energy = (1,358 - 320) kWh = 567 kWh
Demand Savings (Customer kW) Front Range	= 13 Seer 3 Ton - Whole house evap demand =(3.220 - .760) kW = 2.46 kW
Energy Savings (Customer kWh) Western Slope	= 13 Seer 3 Ton - Whole house evap energy = (1,581 - 373) kWh = 629 kWh
Demand Savings (Customer kW) Western Slope	= 13 Seer 3 Ton - Whole house evap demand = (3.220 - .760) kW = 2.46 kW

AC Unit Algorithms:

Seasonal Energy Efficiency Ratio (SEER)	= Total seasonal cooling output (kBtuh) / Total electrical input (kWh); for estimating seasonal performance
Energy Efficiency Ratio (EER)	= Rated cooling output (kBtuh) / Rated electrical input (kW) for equipment tested at 95F estimating peak cooling performance; EER = -0.02 x SEER^2 + 1.12 x SEER . This equation relating EER to SEER applies to all equipment in this product, and will be used if EER rating is not available. (Reference 28)
kW/ton	= 12 / Energy Efficiency Ratio
Coefficient of Performance (COP)	= EER / 3.413 or, EER = 3.413*COP
Coefficient of Performance (COP) Heating	= Heat Energy Output (Btu) / Energy Input to Compressor (Btu)

For Split System Air Conditioners and Air Source Heat Pumps and Ground Source Heat Pumps:

New Equipment Electrical Energy Savings (Customer kWh)	= Size x EFLH x (12/SEER_Standard - 12/SEER_Eff) / (1-Loss_No_QI)
New Equipment Electrical Demand Savings (Customer kW)	= Size x (12/EER_Standard - 12/EER_Eff)
Quality Install Electrical Energy Savings (Customer kWh)	= Size x EFLH x (12/SEER_Eff) x (1/(1-Loss_No_QI) - 1/(1-Loss_QI))
Quality Install Electrical Demand Savings (Customer kW)	= Size x (12/EER_Eff) x (1 - ((1-Loss_No_QI) / (1-Loss_QI)))
GSHP Cooling Electrical Energy Savings (Customer kWh)	=(GSHP_Size/2) x EFLH (12/SEER_Standard - 12/GSHP_SEER) / (1-Loss_No_QI)
GSHP Cooling Electrical Energy Savings (Customer kW)	=GSHP_Size x (12/EER_Standard - 12/GSHP_EER)
GSHP Heating Electrical Energy Savings (Customer kWh)	=GSHP_Size x GSHP_EFLHH x (12/EER_Standard - 12/GSHP_EER) / (1-Loss_No_QI)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

General Algorithms:

Net Dth	= Gross Dth x NTG
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Envelope Variables:

Hours_Electric Heating	Hours of electric heating operations to meet heating requirements as seen in Table 1 for various heating types.
Hours_Electric Cooling	Hours of electric cooling operations to meet cooling requirements as seen in Table 1 for various cooling types.
Dth_Per_SF_Attic	= Dth loss per square foot of attic coefficient for home in CO heated with 0.78 AFUE furnace from Energy Gauge model = 0.2478
kWh_Per_SF_Attic	= kWh savings per square foot of attic coefficient for home in CO. Values are listed in Table 1 for various heating and cooling options.
Dth_Per_SF_Wall_Heating	= Dth loss per square foot of wall coefficient for home in CO heated with 0.78 AFUE furnace from Energy Gauge model = 0.02964. This value incorporates the change from R-0 to R-11 insulation in the wall.
kWh_Per_SF_Wall_Heating	= kWh loss per square foot of wall coefficient for home in CO. Values are listed in Table 1 for various heating and cooling options. The values incorporate the change from R-0 to R-11 insulation in the wall.
Coincidence Factor (CF) Heating	Probability that savings will occur during Xcel's system peak periods (0% since heating savings only)
Coincidence Factor (CF) Cooling	Probability that savings will occur during Xcel's system peak periods - 81%
O&M savings	= Operation and Maintenance savings are assumed to be zero for the insulation rebates.
RatticE	= Existing R value for the attic before insulation is added, provided by customer. We will use a minimum R value of 2 for attics that have no insulation
RatticN	= New R value for the Attic after the insulation is added, provided by customer
RwallE	= Existing R value for the wall before insulation is added, provided by customer. We will use a minimum R-value of 5.57 for walls that have no cavity insulation
RwallN	= New R value for the wall after the insulation is added, provided by customer
SFAI	= Square footage of attic insulation added, provided by customer
SFWI	= Square footage of wall insulation added, provided by customer
SEER	= Assumed cooling system seasonal energy efficiency ratio. We will use 13 which is the federal minimum standard.
COP	= Coefficient of performance for electric heating system. We will use 3.5 for heat pumps, 2.25 for combo heat pump/resistance, and 1 for resistance units.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Eff	= Efficiency of natural gas fired building heating system. For newly installed units we will use the actual nameplate efficiency for the unit that was installed. For existing units, we will use 78% for non condensing units and 92% for condensing units.
Effo	= Efficiency of the old natural gas heating unit, we will use 78%
Effn	= Efficiency of the newly installed natural gas heating unit. We will use the nameplate value provided by the customer.
Efo	= Efficiency Factor of the old natural gas water heater. We will us 0.59 for non condensing tank units, 0.65 for power vent tank units, and 0.82 for tankless.
Efn	= Efficiency Factor of newly installed water heater. We will use nameplate data provided by the customer.
3412	Conversion from BTU to kWh, 1kWh = 3412 BTU
Total_Heat_Losses_Old	= Sum of the leat losses for the house before upgrades are performed. Will be calculated based on insulation and air sealing equations above using actual customer values. Assumes 15% of exterior walls have windows with a U-factor of 0.5.
Total_Heat_Losses_New	= Sum of the leat losses for the house after upgrades are performed. Will be calculated based on insulation and air sealing equations above using actual customer values. Assumes 15% of exterior walls have windows with a U-factor of 0.5.

Lighting Variables:

#_CFL_After	= Number of CFL bulbs present in the home after the upgrade (minimum of 20), provided by the customer
#_CFL_Before	= Number of CFL bulbs present in the home before upgrade, provided by the customer
kW_Bulb_Existing	= Average wattage of incandescent bulb replaced by CFL, we will use 0.06294 kW in 2012 and 0.05808
kW_Bulb_New	= Average wattage of newly installed CFL bulb, we will use 0.019 kW
CFL_Hours	= Average annual operating hours for newly installed CFLs. The average value will be calculated for each customer based on the number of existing and newly installed CFLs. Estimated hours used for each bulb will be as shown in Table 3, which assumes that 10 bulbs pre-exist in 2012 and 12 bulbs pre-exist in 2013.

Appliance Variables:

Appliance_Electric_Savings	= We will use 77 kWh and 0.36 kW for Diswhashers and 26 kWh and .09 kW for Clothes Washers (Reference 14)
Hot_Water_Savings	= We will use 12.72 Dth for Diswhashers and 8.80 Dth for Clothes Washers (Reference 14)
Refrigerator replacement electric energy and demand savings (kWh and kW)	Energy savings for the refrigerator were based on the Energy Star Refrigerator Savings Calculator: http://www.energystar.gov/index.cfm?c=refrig.pr_refrigerators. Savings is 93.41 kWh and 0.011 kW.
Refrigerator recycling electric energy and demand savings (kWh and kW)	Energy savings for the refrigerator are based on shipment-weighted average efficiencies of units manufactured from 1993-2000 with appropriate degradation factors applied to calculate baseline energy consumption (http://enduse.lbl.gov/Projects/RED.html) Demand savings are based on using an Average kW/Peak kW ratio from Deemed Refrigerator Savings for Texas developed by Frontier Associates. Reference 8. Savings is 988.9 kWh and 0.13 kW.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Evap Variables:	
13 Seer 3 Ton A/C energy	=Energy use of 13 SEER 3 Ton AC unit = 1,358 kWh - Front Range: 1,581kWh - Western Slope
13 Seer 3 Ton A/C demand	=Demand of 13 SEER 3 Ton AC unit = 3.22 kW
Tier 1 Evaporative cooler energy	= Motor HP x 0.746 x Load Factor / Motor Eff x OpHr = 403 kWh Front Range, 485 kWh Western Slope
Tier 1 Evaporative cooler demand	= Motor HP x 0.746 x Load Factor / Motor Eff = 0.388 kW
Tier 2 Evaporative cooler energy	= Motor HP x 0.746 x Load Factor / Motor Eff x OpHr = 403 kWh Front Range, 485 kWh Western Slope
Tier 2 Evaporative cooler demand	= Motor HP x 0.746 x Load Factor / Motor Eff = 0.388 kW
Tier 3 Evaporative cooler energy	= Motor HP x 0.746 x Load Factor / Motor Eff x OpHr = 791 kWh Front Range, 952 kWh Western Slope
Tier 3 Evaporative cooler demand	= Motor HP x 0.746 x Load Factor / Motor Eff = 0.760 kW

Ref_air_energy	= Modeled hourly energy use of home with 3 ton 13 SEER standard AC unit in Denver using ESPRE. = Front Range 1,358 kWh (Reference 18) & Western Slope 1,581 kWh
Ref_air_demand	= Btuh/EER x 1000. We will use 3.22 kW (Reference 19)
MotorHP	Motor Horsepower - We will use 0.52 hp for tier 1 units. We will use 0.52 hp for tier 2 units and 1.02 Hp for tier 3 units represent the motor size for an evaporative cooler which corresponds to the cooling output of a 3 ton AC unit. (Reference 22)
0.746	Standard conversion from HP to kW
Load Factor	Load factor for motor - We will use 80% for tier 1 and 80% on high and 10% on low for tier 2.
Motor Eff	Efficiency of the evaporative cooler motor - We will use 80% (Reference 20)
CF_AC	= Coincidence factor for the refrigerated air system, the probability that peak demand of the AC unit will coincide with peak utility system demand. 0.7 will be used. (Reference 22)
OpHr	Operating hours of the evaporative cooler fan motor - We will use 1040 for Front Range and 1251 for Western Slope from Cadmus recommendations (Reference 22)
Incremental Costs	= Incremental cost of efficient technology over baseline technology. Values listed in Table 4
O&M savings	= Operation and Maintenance savings related to water use are listed in Table 5.
Measure Life	= 15 years (Reference 22)
NTG	Net-to-Gross Factor = We will use 52% for tier 1 evaporative cooling, and 59% for tier 2 and 100% for tier 3. (Reference 22)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

AC Variables:

Size	= The new equipment capacity in tons, provided by customer
EFLH	= Equivalent Full Load Hours. The Equivalent number of hours that equipment would be running at Full Load over the course of the year. We will use 490.4 EFLH which was determined by modeling a home in Denver with a 3 ton 13 SEER AC unit. The resulting kWh were divided by the connected load to derive the EFLH value. Modeling used ESPRE simulation model which is an EPRI product.
GSHP_EFLHH	= Ground Source Heat Pump Equivalent Full Load Hours Heating: The equivalent number of hours that GSHP equipment would be running at Full Load over the course of the year for heating. We will use 846 EFLH for new homes and 1,419 for existing homes. GSHP EFLHH was determined by REMRATE modeling of a new and an existing home adjusted for Denver Degree Days. The resulting kWh were divided by the connected load to derive the EFLHH value.
SEER_Standard (Plan A)	= Seasonal Energy Efficiency Ratio of standard equipment, based upon the minimum Federal standard for efficiency as manufactured. For residential AC units, we will use 13 SEER.
SEER_Standard (Plan_B)	= Seasonal Energy Efficiency Ratio of existing equipment based upon the minimum Federal standard for efficiency manufactured between 1992 and 2006. For existing residential AC units, we will use 10 SEER.
SEER_Eff	= Seasonal Energy Efficiency Ratio of High Efficiency equipment that the customer will install, provided by the customer
EER_Standard (Plan_A)	= EER of standard equipment, based upon the minimum Federal acceptable efficiency. We will use 11.18 based on the federal standard 13 SEER and the conversion listed above.
EER_Standard (Plan_B)	= EER of existing equipment, based upon the 1992 to 2006 minimum Federal acceptable efficiency. We will use 9.2 based on the federal standard 10 SEER and the conversion listed above.
EER_Eff	= EER of High Efficiency that the customer will install, provided by customer. If value is not provided by the customer we will use the conversion listed above.
GSHP_EER	= EER of High Efficiency that the customer will install, provided by customer.
GSHP_SEER	= EER/0.95
Standard_COP	= Coefficient of Performance of electric resistance heater = 1.00 The COP of an airsource heatpump in an existing home = 2.0 The COP of an airsource heatpump in a new home = 3.1.
GSHP_COP	= Coefficient of Performance of GSHP equipment that the customer will install, provided by the customer. We will use COP if EER is not available. Baseline GSHP COP assumed to be 3.1
GSHP_Size	=Size of Ground Source Heat Pump, provided by customer. We will divide size by 2 for GSHP cooling calculations based on REMRATE modeling of a new and an existing home adjusted for Denver Degree Days. The resulting kWh were divided by the connected load to derive the EFLHH value.
Loss_No_QI	We will use 30.5% which is the summation of the following losses: Equipment sizing = 3%, Refrigeration Charge = 13%, Improper air flow = 7%, Duct leaks = 7.5% The losses for heating are only the duct leakage losses (7.5%)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Loss_QI	Efficiency of unit lost due to improper installation. All non-QI losses will be eliminated with quality install in a new home so the Loss_QI for a new home will be 0. In existing homes and all Plan B installations, all non-QI losses will be eliminated except for the duct leakage losses. Duct leakage losses in an existing home will be cut in half resulting in a Loss_QI for existing homes of 3.75%. Savings will be reduced for quality installation according to the percentages above when it is determined through M & V that one or more facets of quality installation (equipment sizing, refrigeration charge, proper airflow, duct leakage) fall outside the acceptable range according to industry standards.
CF	= Coincidence Factor, the probability that peak demand savings will coincide with peak utility system demand. 0.90 will be used for prescriptive AC rebates. For GSHP .50 will be used.
Measure Life	Measure life is taken at 14 years for all Plan A cooling equipment, 7 years for all Plan B cooling equipment, and 7 years for Quality Installations (Reference 29). Plan Life for GSHP is 20 years (Reference 30).
Future Value	Estimated cost of the standard replacement equipment at expected end of life of current equipment
Rate	Assumed interest rate. 7.88% used for discounting the future purchase price and 2.57% used for inflation to calculate the future purchase price based on current cost.
Number of Periods	Number of years expected until existing equipment end of life
Incremental operation and maintenance cost	= 0 - conservative approach, taking no credit for improved mean time between failure.
Incremental Capital Cost	Incremental cost of efficient equipment. Values listed in table 6 below. Values will be scaled for different equipment sizes. Plan A and Plan B incremental capital costs include $200 for quality install.
Plan B Baseline Cost	The present value of a SEER 13 unit eight years in the future was calculated using a 10-year average inflation rate. The inflated value was then discounted back to present value using Xcel's Weighted Average Cost of Capital for Colorado. An average repair
GSHP Incremental Cost Split	Incremental Costs were split according to percentage of annual energy used for heating (81%) and percentage of annual a energy used for cooling (19%).
Federal Tax Incentive:	30% of installed Cost of Energy Star Certified GSHP

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

General Variables:

NTG	Net-to-Gross Factor = We will use 94% based on reference 5.
CF	Coincidence Factor = Probability that peak demand of the bulb will coincide with peak utility system demand. As seen in Table 2 based on Reference 1.
TDLF	Transmission Distribution Loss Factor = 7.70%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing SRD-2

Table 1: Savings factors for electrically heated and cooled homes:

	Electric Resistance Heat	Air Source Heat Pump or Air Conditioner	Ground Source Heat Pump	Evaporative Cooling
Heating kWh_Per_SF_Attic	31.752	18.102	8.904	NA
Cooling kWh_Per_SF_Attic	NA	3.57	2.142	0.000
Heating kWh_per_SF_Wall	4.145	2.399	1.270	NA
Cooling kWh_per_SF_Wall	NA	0.214	0.141	0.000
Hours_Electric Heating	787	967	943	NA
Hours_Electric Cooling	NA	628	628	628
Heating Air Sealing and Weatherstripping Customer kWh	1521	908	444	NA
Cooling Air Sealing and Weatherstripping Customer kWh	NA	5	3	0

Table 2 (Reference 1):

Type of measure:	Measure life:	Incremental cost:	Coincidence Factor
Attic insulation and bypass sealing	20 years (Reference 1)	$588 (Reference 6)	Cooling 81% Heating 0%
Air sealing and weather-stripping	10 years (Reference 1)	$272 (Reference 7)	
Wall insulation	20 years (Reference 1)	$2,150 (Reference 6)	
CFLs	8.8 years (Reference 9)	$63 (Reference 10)	8%
Setback thermostat	5 years (Reference 11)	$50 (Reference 11)	0%
HE furnace AFUE 92%	18 years (Reference 12)	$390 (Reference 13)	NA
HE furnace AFUE 94%	19 years (Reference 12)	$440 (Reference 13)	NA
Boiler 84%	18 years (Reference 17)	$481 (Reference 17)	NA
Tankless water heater 82%	20 years (Reference 1)	$750 (Reference 13)	NA
Power vented water heater	15 years (Reference 1)	$175 (Reference 13)	NA
Dishwasher	11 years (Reference 15)	$30 (Reference 14)	2%
Clothes washer	11 years (Reference 16)	$200 (Reference 14)	2%
Refrigerator replacement	13 years (Reference 14)	$30 (Reference 14)	100%
Refrigerator recycling	7.3 years (Reference 14)	$0 (Reference 11)	100%

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 3 Residential CFL operating hours:

Lamps to be changed (Use if no CFLs are in home before)	Incremental Cost (at $3.15 per bulb)	Hours Annually per bulb - 2012	Hours Annually per bulb - 2013
#			
1	$3.15	888	864
2	$6.30	876	864
3	$9.45	872	864
4	$12.60	870	864
5	$15.75	869	864
6	$18.90	868	858
7	$22.05	867	846
8	$25.20	863	837
9	$28.35	853	824
10	$31.50	845	813
11	$34.65	833	805
12	$37.80	824	798
13	$40.95	816	791
14	$44.10	809	785
15	$47.25	802	762
16	$50.40	796	739
17	$53.55	775	720
18	$56.70	755	702
19	$59.85	736	687
20	$63.00	720	673

Table 4. Incremental Cost of Evaporative Coolers (Reference 23,24,25):

	Baseline Cost	HE Cost	Incremental Cost
Tier1: 13 Seer AC to Evap	$ 4,329	$ 1,022	$ (3,307)
Tier2: 13 SEER AC to HE Evap	$ 4,329	$ 1,989	$ (2,340)
Tier 3: 13 SEER AC to Whole House Evap	$ 4,329	$ 7,542	$ 3,213

Table 5. Operation and Maintenance Savings (Reference 26):

Base System	New System	O&M Savings
13 Seer 3 Ton A/C	Standard Evap Cooling (Tier 1)	$ (10.26)
13 Seer 3 Ton A/C	High Efficient Evap Cooling (Tier 2)	$ (10.26)
13 Seer 3 Ton A/C	Integrated whole house evap cooling (Tier 3)	$ (6.77)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 6. Incremental Capital Costs of AC Measures:

Unit Description	Current Year Purchase Price	Baseline Plan A Cost	Incremental Plan A Cost	Baseline Plan B Cost	Incremental Plan B Cost
13 SEER 3 ton unit	$ 4,329	NA	NA	NA	NA
14 SEER 3 ton unit	$ 4,948	NA	NA	$ 3,949	$ 999
14.5 SEER 3 ton unit	$ 5,050	$ 4,329	$ 721	$ 3,949	$ 1,100
15 SEER 3 ton unit	$ 5,222	$ 4,329	$ 893	$ 3,949	$ 1,272
16 SEER 3 ton unit	$ 5,569	$ 4,329	$ 1,240	$ 3,949	$ 1,619
17 SEER 3 ton unit	$ 6,002	$ 4,329	$ 1,673	$ 3,949	$ 2,052
18 SEER 3 ton unit	$ 6,435	$ 4,329	$ 2,107	$ 3,949	$ 2,486
GSHP 14.1 EER 3.4 ton unit*	$ 9,770	$ 6,251	$ 3,520		
GSHP 14.1 EER 6 ton unit*	$ 16,790	$ 6,448	$ 10,342		

* Current Year Purchase Price for GSHP units is discounted by Federal Tax Incentive.
Incremental costs for unit sizes not listed will be interpolated/extrapolated from listed values

Incremental costs for GSHP to High Efficient GSHP will use the incremental cost table for standard A/C Units. This is due to a GSHP to HE GSHP the loop cost are the same so that cost is ignored. When the baseline system has electric resistance heat or is an air source heat pump the cost for the ground loop is included. The cost to install a GSHP loop is approximately $2,005 per ton.

Table 7. AC Plan B baseline present value cost calculation:

Discount Rate	7.88%	
10 Yr. Avg. Inflation Rate	2.57%	
SEER=	13	3 Ton Unit
2009 Cost=	$ 4,329	**Incremental Cost**
2010	$ 4,440	$ 4,440
2011	$ 4,554	$ 4,222
2012	$ 4,671	$ 4,014
2013	$ 4,792	$ 3,816
2014	$ 4,915	$ 3,629
2015	$ 5,042	$ 3,450
2016	$ 5,171	$ 3,281
2017	$ 5,304	$ 3,119

Provided by Customer:
Type of Measures Implemented

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

The Home Performance with ENERGY STAR Product provides a “systems approach” to comprehensive energy improvements. Public Service uses this approach by requiring an upgraded home “shell,” including code level attic insulation and a reduction in air infiltration coupled with a combustion safety check if naturally vented combustion appliances (furnace/boiler or water heater) remain in the home after product participation.

Product savings were determined by using a surrogate computer modeled home (modeled with Energy Gauge) with characteristics that approximate the most common home attributes as reported in the 2005 Home Use Survey and the energy consumption characteristics of the metropolitan Denver general housing stock excluding low-income customers. Low-income customers may participate in this product, but also have dedicated product offerings. Savings were determined by modeling the required improvements for the product (attic insulation and air infiltration control) and setting a secondary “baseline”, then adding the product “options” to the model. Wall insulation, programmable thermostat impacts, furnace and water heater improvements were modeled with this technique.

General Assumptions:
The baseline home had an existing level of insulation in the attic of R-19 and the change case had an elevated insulation level of R-40.
The baseline home had an existing ACH natural of 0.60 and the change case had a 25% reduction to 0.45 ACH natural.
The baseline home had an existing level of insulation in the walls of R-0 and the change case had an elevated insulation level of R-11.
The baseline water heater is a 40 gallon capacity with an Efficiency Factor (EF) of 59%.

Evap Assumptions:
The installed unit is assumed to have a 3/4 hp motor (commonly available unit).
Qualifying equipment must be new and be a permanently installed direct (Tier 1 or 2), indirect or two-stage evaporative cooling unit. Portable coolers or systems with vapor compression equipment are not eligible, nor is used or reconditioned equipment.
Tier 1: Qualifying evaporative cooling units must have a minimum Industry Standard Rated airflow of 2,500 CFM
Tier 2: Qualifying evaporative cooling units must meet tier 1 requirements and additionally have a minimum Media Saturation Effectiveness of 85%. The units must be installed with a remote thermostat and a periodic purge water control.
Tier 3: Integrated HVAC system rebate that compares the "whole house" conventional HVAC with an integrated heating and evaporative cooling system in new homes or homes with major remodeling. Tier 3 evaporative cooling units must be indirect or indirect/di
Baseline equipment in the incremental analysis was revised to accurately reflect the alternatives that customers consider when installing evaporative air conditioning compared to refrigerated air conditioning
The technical assumptions for the Evaporative Cooling Rebate product were developed assuming that a standard 13 SEER central air conditioning system was replaced or
The NTG for the Tier 1 evaporative coolers is 59.7%. This was determined in the 2006 Summit Blue Consulting report. The NTG for the Tier 2 evaporative coolers is assumed to be 100% due to the low market participation. The average of these two numbers (

AC Assumptions:
Baseline equipment meets applicable minimum Federal standards for efficiency
Baseline equipment installation (for QI) has 30.5% efficiency losses.
Baseline equipment installation in Existing Homes has 26.75% efficiency losses
High efficiency equipment exceeds minimum Federal standards for efficiency
Installed equipment does not operate at optimum efficiency until a Quality Installation is completed.

To qualify for a rebate, each piece of equipment must meet the minimum EER and SEER requirements. The customer should provide both the EER and SEER values for the particular piece of equipment. If the customer is unable to provide both values, the value
10-year Average Inflation Rate = 2.57% (InflationData.com)
CO Weighted Average Cost of Capital = 7.88%

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Average Cost of Central AC Repair=$750 (EEBC)
Federal Tax Incentive: As part of the American Recovery and Reinvestment Act of 2009 a Federal Tax Incentive of 30% of the installed cost of a new Ground Source Heat Pump system is available to taxpayers through 2016.
GSHP New Home REMRATE Modeling = Larger , more tightly built, better insulated new home was modeled with GSHP COP of 3.3
GSHP Existing Home REMRATE modeling = Smaller, less tightly built, poorly insulated existing home was modeled with GSHP of 3.3.
GSHP Installed Loop Cost/Ton = $2004 per loop per Ton
GSHP Baseline Equipment Cost combines AC unit and electric resistance heating
GSHP appropriate Quality Install savings included in modeling
No Heating kW saving are claimed for GSHP during winter, only summer cooling kW savings are claimed.

Building Characteristics for Prototype Home Used for Modeling:

- Single Family
- Two story (Reference 3)
- 3 bedroom 2 bathroom (Reference 3)
- 2000 square feet (Reference 3)
- Basement foundation (Reference 3)
- HVAC:
  - heating - gas furnace 78 AFUE (55.9 kBtu unit required) - 85% of homes have gas heating, and 78% of which are forced air furnaces (Reference 2)
  - cooling - 59% have Central Air Conditioning model required a 2.5 ton unit to meet the cooling load (Reference 2)
  - air handler is in the basement and supply ducts and return ducts are assumed to be in majority interior space
- Windows:
  - 61% of homes have double pane windows (Reference 2)
  - double pane low-E are standard (Reference 4)
  - Model assumes 15% of wall area glazing
  - applied a u-factor of 0.53 (average between clear glass double pane and low-E)

Insulation Levels:

- Existing Ceiling Insulation: R-19 (Reference 4)
- Existing Wall Insulation: R-11 (Reference 4)

Basement Assumptions

- Assumed basement walls to have R-11 insulation
- Basement is considered finished space but not conditioned
- The air handler is located in the basement
- Some homes will have smaller sections of the basement conditioned – maybe a bonus room etc, however this cannot be easily modeled in EnergyGauge

Appliances (Reference 2)

- 85% have dishwashers
- 74% electric ranges
- 88% and 89% have clothes washer and dryer (electric)
- 85% water heating is gas - model used a 40 gallon storage tank
- 68% of homes have ceiling fans

Average Customer Energy Consumption: (Reference 2)

- kWh annually: 9,000 roughly for a 2,000 square foot home
- Therms annually: 835

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

References:

1. California Measurement Advisory Committee (CALMAC) Protocols, Appendix F (www.calmac.org/events/APX_F.pdf).
2. 2006 Residential Energy Use Colorado Service Area - Xcel: Bruce Neilson
3. American Housing Survey for Denver - US Census Bureau
4. Xcel Energy CO DSM Potential 2006 - prepared by Kema
5. National Energy Efficiency Best Practices Study - Residential Single-Family Comprehensive Weatherization Best Practices Report from December 2004.
6. RS Means Repair and Remodeling 2007 at a cost of $0.028 per square foot per increase in R-value.
7. National Energy Audit Tool (NEAT) and Frontier estimates.
8. EEBP web site - Tacoma Residential Weatherization program.
9. US Lighting Market Characterization Study performed for the Department of Energy in 2002
10. MEEA/ES Change A Light campaign info
11. Xcel Energy estimate
12. Draft Technical Support Document: Energy Conservation Standards for Residential Furnaces and Boilers, Efficiency Standards for Consumer Products Prepared for US DOE, September 2006
13. California Energy Commission's Database for Energy Efficient Resources (DEER)
14. www.energystar.gov
15. DOE 2007
16. Appliance Magazine, September 2007
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18. ESPRE 2.1 engineering model: Simplified energy analysis methods for residential buildings
19. Building America, Research Benchmark Definitions, Pg 9, http://www.eere.energy.gov/buildings/building_america/pdfs/37529.pdf
20. Average motor efficiency for 0.75 hp motor from NEMA, http://www.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/small_motors_tsd.pdf
21. Kinney, Larry. New Evaporative Cooling Systems: An Emerging Solution for Homes in Hot Dry Climates with Modest Cooling Loads. SWEEP 2007
22. Web site information - Grainger Evap Cooler - Essick Model N28W; Pheonix Mfg Corp; Model PD4231
23. An average of the price for a 13 SEER Goodman (http://www.acfactoryoutlet.com/home.asp?p=listgoodman.asp&cat=73&sort=1&ah=1) and the price as noted in the DOE's AC calculator spreadsheet (www.energystar.gov/ia/business/bulk_purchasing/bpsavings_calc/Ca
24. http://www.google.com/products?q=home+depot+evaporative+cooler+cost&ie=UTF-8&oe=utf-8&rls=org.mozilla:en-US:official&client=firefox-a&um=1&sa=X&oi=product_result_group&resnum=1&ct=title
25. http://www.toolbase.org/TechInventory/techDetails.aspx?ContentDetailID=750: "A two-stage evaporative cooler with a cooling capacity equivalent to a three-ton conventional system retails for about $1,800." The California Energy Commission states that installation costs are equivalent to refrigerated air systems, so only equipment cost is included in this analysis (http://www.consumerenergycenter.org/home/heating_cooling/evaporative.html: "Installation costs of swamp coolers are comparable to air conditioning units").
26. SWEEP 2007 Report. O&M Savings based on manufacturers water use data and an assumed $3.82/thousand gallons cost for water (Denver Water Board).
27. ASHRAE Applications 2007 p.36.3 Used AC window unit as estimate for evaporative cooler.
28. Building America, Research Benchmark Definitions, p. 9
29. ASHRAE, 2007, Applications Handbook, Ch. 36, table 4, Comparison of Service Life Estimates
30. http://www.energysavers.gov/your_home/space_heating_cooling/index.cfm/mytopic=12640 (indoor components up to 25 years; ground loop =50 years)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Insulation Rebate

Residential natural gas and/or electric customers receive a cash rebate for installing insulation in their existing single-family home or one-to-four unit property.

Algorithms:

Attic insulation and bypass sealing natural gas savings (Dth)	= (1 / (2 + RatticE) - 1 / (2+ RatticN)) x SFAI x Dth_Per_SF_Attic
Attic insulation and bypass sealing electric savings (Heating and Cooling) - Customer kWh	= (1 / (2 + RatticE) - 1 / (2+ RatticN)) x SFAI x (Heating_kWh_Per_SF_Attic + Cooling kWh_Per_SF_Attic)
Attic insulation and bypass sealing savings - Customer kW	= Customer kWh / (Hours_Electric Heating + Hours_Electric Cooling)
Air sealing and weather-stripping natural gas savings (Dth)	Energy savings for the air sealing and weather-stripping were calculated with Energy Gauge modeling software for CO Reference home model with typical home characteristics, calibrated to match energy use for the area. 25% reduction = 7.4 Dth
Air sealing and weather-stripping savings - (Heating and Cooling) - Customer kWh	Energy savings for the air sealing and weather-stripping were calculated with Energy Gauge modeling software for CO Reference home model with typical home characteristics, calibrated to match energy use for the area. Values are listed in Table 1 for various heating and cooling options. Values represent a 25% reduction in ACH from 0.60 to 0.45.
Wall insulation natural gas savings (Dth)	= Dth_Per_SF_Wall x SFWI
Wall insulation savings (Heating and Cooling) - Customer kWh	= kWh_Per_SF_Wall x SFWI
Electric Energy Savings - Generator kWh	= Customer kWh/(1-TDLF)
Electric Demand Savings - Generator kW	= Customer kW x CF/(1-TDLF)

Variables:

RatticE	= Existing R value for the attic before insulation is added, provided by customer. We will use a minimum R-value of 2 for attics that have no insulation
RatticN	= New R value for the Attic after the insulation is added, provided by customer
SFAI	= Square footage of attic insulation added, provided by customer
SFWI	= Square footage of wall insulation added, provided by customer
Hours_Electric Heating	Hours of electric heating operations to meet heating requirements as seen in Table 1 for various heating types.
Hours_Electric Cooling	Hours of electric cooling operations to meet cooling requirements as seen in Table 1 for various cooling types.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Dth_Per_SF_Attic	= Dth savings per square foot of attic coefficient for home in CO heated with 0.78 AFUE furnace from Energy Gauge model = 0.2478
kWh_Per_SF_Attic	= kWh savings per square foot of attic coefficient for home in CO. Values are listed in Table 1 for various heating and cooling options.
Dth_Per_SF_Wall	= Dth savings per square foot of wall coefficient for home in CO heated with 0.78 AFUE furnace from Energy Gauge model = 0.02964. This value incorporates the change from R-0 to R-11 insulation in the wall.
kWh_Per_SF_Wall	= kWh savings per square foot of wall coefficient for home in CO. Values are listed in Table 1 for various heating and cooling options. The values incorporate the change from R-0 to R-11 insulation in the wall.
Coincidence Factor (CF) Heating	Probability that savings will occur during Xcel's system peak periods (0% since heating savings only)
Coincidence Factor (CF) Cooling	Probability that savings will occur during Xcel's system peak periods - 81%
Transmission Distribution Loss Factor (TDLF)	Transmission Distribution Loss Factor = 7.7%, the percentage loss of electricity as it flows from the power plant to the customer.
Net-to-Gross Factor (NTG)	= We will use 89% for the NTG for gas and electric projects. (Reference 3)
O&M savings	= Operation and Maintenance savings are assumed to be zero for the insulation rebates.

Table 1: Savings factors for electrically heated and cooled homes

	Electric Resistance Heat	Air Source Heat Pump or Air Conditioner	Ground Source Heat Pump	Evaporative Cooling
Heating kWh_Per_SF_Attic	31.752	18.102	8.904	NA
Cooling kWh_Per_SF_Attic	NA	3.57	2.142	0.000
Heating kWh_per_SF_Wall	4.145	2.399	1.270	NA
Cooling kWh_per_SF_Wall	NA	0.214	0.141	0.000
Hours_Electric Heating	787	967	943	NA
Hours_Electric Cooling	NA	628	628	628
Heating Air Sealing and Weatherstripping Customer kWh	1521	908	444	NA
Cooling Air Sealing and Weatherstripping Customer kWh	NA	5	3	0

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Table 2: Measure lives and incremental costs

Type of insulation:	Measure life:	Incremental cost:
Attic insulation and bypass sealing	20 years (Reference 1)	Will use actual Costs
Air sealing and weather-stripping	10 years (Reference 1)	Will use actual Costs
Wall insulation	20 years (Reference 1)	Will use actual Costs

Needed from Customer/Vendor/Administrator for Calculations:

Heating System Fuel - gas or electric?
Elec Heating System Type - Elec Resistance, Air Side Heat Pump (ASHP), Ground Source Heat Pump (GSHP)
Elec Cooling System Type - Conv AC, Evap Cooling; ASHP, GSHP
Was attic insulation and bypass sealing completed?
Attic insulation square footage
Attic insulation existing R value
Post insulation attic R value
Was air sealing and weather stripping completed?
Was wall insulation completed?
Wall insulation square footage
Cost of attic insulation
Cost of air sealing and weather sealing
Cost of wall insulation

Assumptions:

For attic insulation, we will use actual existing R values for the baseline and actual complete R values for the high efficiency.
The baseline home had an existing ACH natural of 0.60 and the change case had a 25% reduction to 0.45 ACH natural.
The baseline home had an existing level of insulation in the walls of R-0 and the change case had an elevated insulation level of R-11.
Energy modeling with Energy Gauge
For attic insulation calculations, the 2 added to the existing and new insulation R values represents the air film and insulative properties of the ceiling structure.
For wall insulation calculations we have assumed that there is no insulation in the wall or the wall contains one inch or less of insulation or is not positioned correctly and therefore is not effectively insulating the wall.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

The savings were calculated by computer modeling of a typical residential home in the Denver metro area. The hypothetical modeled home was created with the most common characteristics from our Residential Home Energy Use Study in 2006 and adjusted so its calculated energy consumption was close to the overall average of Public Service's gas heated homes in the metro area. The savings from adding ceiling insulation was determined by changing the characteristic in the model and recalculating the resulting gas consumption and similarly with insulating walls and reducing air infiltration.

Materials for adding ceiling insulation could be fiberglass batts, loose blown fiberglass/rock wool and other similar materials or blown cellulose. Typically, insulators will install a similar material to those already in place. The key factor is that the contractor has installed sufficient materials to meet the final "R value" required (38 in most areas and up to 49 in others).

	Specifics	Dth/yr-home
Attic Insulation	R19 to R38/R49*	5.9
Air Sealing	25% Reduction	7.4
Wall Insulation	Empty Cavity to R11	32.3

*IECC 2006 may require R49 in mountain areas

Changes From 2011:

No changes.

References:

1. California Measurement Advisory Committee (CALMAC) Protocols, Appendix F (www.calmac.org/events/APX_F.pdf).
2. 2005 Residential Home Use Study MN - Xcel Energy Market Research
3. National Energy Efficiency Best Practices Study - Residential Single-Family Comprehensive Weatherization Best Practices Report from December 2004.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Refrigerator Recycling

Rebates will be offered for pickup of a secondary working refrigerator that will be demanufactured and re-cycled.

Algorithms:

Refrigerator Electrical Energy Savings (Customer kWh)	= [Baseline Product Consumption - Efficient Product consumption] = 1,071 kWh (2012) kWh/refrigerator recycled
Refrigerator Electrical Demand Savings (Customer kW)	= Refrigerator Electrical Energy Savings / 8760 x Average_to_Peak_kW_Factor = 0.145 kW (2012)
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF) = 1,160 kWh (2012)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF) = 0.158 kW (2012)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG = 708 kWh (2012)
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG = 0.096 kW (2012)

Variables:

Baseline Product Consumption	= Baseline Product Consumption is the average current year consumption for refrigerators manufactured 1993-2000 = 1071kWh in 2012 and 803kWh in 2013 as calculated in Table 1.
Efficient Product Consumption	= Efficient Product Consumption is 0 when unit has been demanufactured.
Average_to_Peak_kW_Factor	= Ratio of average electrical demand to peak electrical demand for a refrigerator from 1993 to 2000. We will use a value of 1.19 from reference 1.
8760	= Total number of hours in one year
Measure Life	= Measure life is assumed to be the remaining service life of the existing refrigerators that are removed under this product. = 7.3 (2012) and 6.2 (2013) years based on weighted average calculated in Table 1.
Incremental Costs	= Actual cost to implement product from vendor
TDLF	Transmission Distribution Loss Factor = 7.70%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing - SRD-2
NTG	= Net to gross will be 61% for refrigerator recycling (Reference 3)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

O&M savings	= Operation and Maintenance savings are assumed to be zero for refrigerator recycling.
CF	= Coincidence Factor = 1 by definition because we use average to peak kW factor

Provided by recycling vendor/homeowner: **Verified during M&V:**

Confirm refrigerator was removed	Yes
Confirm refrigerator was working prior to removal	Yes

Assumptions:
Rebates are available only for working secondary units released by owners.

Changes From 2011:
No changes.

Table 1. (Reference 1 and 2)

		Baseline kWh		
Year of Manufacture	% Share	2012	2013	Remaining Life
1993	10.98%	658		4.5
1994	11.89%	1,257		5.0
1995	12.53%	1,204	624	5.5
1996	12.92%	1,161	1,204	6.5
1997	12.92%	1,120	1,161	7.5
1998	12.92%	1,080	1,120	8.5
1999	12.92%	1,042	1,080	9.5
2000	12.92%	1,004	1,042	10.5
Weighted Average		**1071**	**803**	**7.3**

References

1. Baseline kWh and Average to peak kW ratio from Energy Data Sourcebook for the U.S. Residential Sector. Berkeley, CA: Lawrence Berkeley National Laboratory. LBNL-40297

2. Remaining Life and % share from US DOE, Technical support document: Energy efficiency standards for consumer products: Refrigerators, refrigerator-freezers, and freezers including draft environmental assessment, regulatory impact analysis, 1995 Jul 01.

3. Net-to-Gross factor from Fort Collins Utility report

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: School Education Kit

A package of home energy efficiency measures in a kit that can be distributed to 5th grade students. Each participant receives a kit containing six compact fluorescent bulbs. In addition, other items are included such as a thermometer, filter alarm, leak detection tablet, night light and tape measure.

Algorithms:

CFL Electric Energy Savings (Customer kWh)	= (kW_Base-kW_Eff) x Hr use (271kWh in 2012 and 211kWh in 2013)
CFL Electric Demand Savings (Customer kW)	= (kW_Base - kW_Eff) (.31 kW in 2012 and .25 kW in 2013)
Electrical Energy Savings (Gross Generator kWh)	= (Customer kWh * number of kits) / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= (Customer kW * number of kits)*CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG x Install Rate
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG x Install Rate

Variables:

Hrs	= Annual operational hours per year of the fixture. These hours are dictated by location of the bulb in the home, and so will vary depending on the number of available fixtures in the home. We assume that the highest-use fixtures have already transitioned to CFL technology and thus will not be retrofitted with the new bulbs (Ref 2). In 2012 868 hrs will be used and in 2013 858 hrs will be used.
CF	= Coincidence Factor, the probability that peak demand of the lights will coincide with peak utility system demand. 0.08 will be used for CFLs (Ref 2)
kW_EE	= Bulb wattage per supplied CFLs; = 3 x 13W and 3 x 18W.
kW_Base	= Bulb wattage replaced by supplied CFLs; = dictated by federal minimum standards, which change from 2012 to 2013 as less efficient incandescent designs are abandoned (Ref 3)
Incremental Costs	= costs provided by vendor.
Transmission Distribution Loss Factor (TDLF)	Transmission Distribution Loss Factor = 7.70%, the percentage loss of electricity as it flows from the power plant to the customer.
Net-to-Gross Factor (NTG)	= We will use 100% for school education kits as these kits would not be available without the product.
Install Rate	= Actual Installation Rates will be collected as part of the M&V exercise. For these assumptions, the verified install rate of 66% in 2010 will be applied for the purposes of accurate forecasting.
O&M savings	= Operation and Maintenance savings are assumed to be $0 per school kit.

Measure	Measure Life
CFLs (6 bulbs) in 2012	7.44 years (Reference 3)
CFLs (6 bulbs) in 2013	7.55 years (Reference 3)

Assumptions:

- It was assumed the CFL's in included in the kit would be put in high lighting useage areas of the home.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

- For all measures, Public Service will use actual install rates to estimate savings.

Provided by Customer:
Number of kits distributed

Verified during M&V:
Yes

Changes From 2011:
Removed faucet aerator and showerhead measures.

References

1. US DOE US Lighting Market Characterization Stu 2002
2. Composite Wattages, Operating Hours and Coincidence from CFL METERING STUDY FINAL REPORT, Prepared for: Pacific Gas & Electric Company, San Diego Gas & Electric Company, Southern California Edison Company, 2005
3. Xcel Energy Home Lighting and Recycling Program Assumptions

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Water Heating Rebates

Residential natural gas customers receive a cash rebate for purchasing high-efficiency natural gas water heating equipment. Residential Customers with standard electric water heaters can receive a rebate for replacing it with a heat pump water heater.

Gas Algorithms:

Standard tank water heater 0.62 EF Natural gas savings (Gross Dth)	Energy savings for the gas water heater are based on federal minimum efficiency requirements for a baseline water heater. The replacement model has an Efficiency Factor (EF) rating of 62%, which is the current Energy Star Standard. All savings were calculated in EnergyGauge using a baseline home model calibrated to typical home size and characteristics for the Denver area (see below for characteristics.) Savings is 1.065 Dth/yr
Standard tank water heater 0.65 EF Natural gas savings (Gross Dth)	Energy savings for the gas water heater are based on federal minimum efficiency requirements for a baseline water heater. The replacement model has an EF rating of 65%. All savings were calculated in EnergyGauge using a baseline home model calibrated to typical home size and characteristics for the Denver area (see below for characteristics.) Savings is 2.044 Dth/yr.
Standard tank water heater 0.67 EF Natural gas savings (Gross Dth)	Energy savings for the gas water heater are based on federal minimum efficiency requirements for a baseline water heater. The replacement model has an EF rating of 67%. All savings were calculated in EnergyGauge using a baseline home model calibrated to typical home size and characteristics for the Denver area (see below for characteristics.) Savings is 2.65Dth/yr.
Tankless water heater 0.82 EF Natural gas savings (Gross Dth)	Energy savings for the gas water heater are based on federal minimum efficiency requirements for a baseline water heater. The replacement model has an EF rating of 82%, which is the current Energy Star Standard. All savings were calculated in EnergyGauge using a baseline home model calibrated to typical home size and characteristics for the Denver area (see below for characteristics.) Savings is 5.89 Dth/yr.
Electric Algorithms:	
Electric Storage Water Heater Baseline Energy Consumption (Baseline_kWh)	= Hot water energy / EF_Baseline
High Efficiency Heat Pump Storage Tank Consumption (Efficient _WH_kWh)	= Hot water energy / EF_Eff
Water Heater Electric Savings (Customer kWh)	= Baseline_kWh - Efficient_WH_kWh + Cooling_Benefit - Heating Penalty
Water Heater Demand Savings (Customer kW)	= Customer kWh / Hours
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-ELF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Variables:

NTG	Net-to-Gross Factor = We will use 90% for gas based on letter from Davis Energy Group to DOE dated 10/23/07 and 100% for heat pump
Measure life	= 15 years for standard tank water heater and 20 years for tankless water heater. (Reference 5) 13 years for HP storage tank water heaters (Reference 8)
Volume	= Volume of the new storage tank water heater or the existing/new storage tank water heater, provided by the customer
Hot water energy	= Energy output from a water heater based on average use, we will use 4,395 kWh
EF_Baseline	= 0.97 - Volume x 0.00132
EF_Eff	= Energy Factor of the Efficient water heater provided by the customer.
Heating_Penalty	= 522 kWh for homes with heat pumps and 1039 kWh for homes with electric resistance heat. Homes with gas heat will incure an O&M dollar penalty instead of a Dth penalty.
Cooling_Benefit	= 177 kWh for homes with refrigerated air conditioning, 0 kWh for homes without refrigerated air conditioning
Hours	= We will use 1073 hours which is determined by dividing the typical consumption by the typical output.
CF	= Probability that the demand reduction will coincide with system peak load. We will use 12% for electric water heaters based on operating hours divided by 8760.
ELF	Energy Loss Factor = 7.69%, the percentage loss of electricity as is flows from the power plant to the customer during non-peak system demand
Incremental Costs	= Incremental cost of efficient technology over baseline technology. Costs will be as seen in the table below.
O&M savings	= Operation and Maintenance savings for heat pump water heaters are -$40.66 for homes with natural gas heat due to increased heating load resulting from heat pump operation, $0.00 for homes with electric heat. O&M resulting from standby losses associated with conventional storage water heaters are considered negligible.

Unit Type	**Incremental Cost:**	
Standard tank water heater 0.62 EF	$125.69	
Standard tank water heater 0.65 EF	$340.11	
Standard tank water heater 0.67 EF	$361.04	
Tankless water heater 0.82 EF	$297.75	
Heat Pump Water Heater 2.19 EF	$1,150.00	(Reference 6)

Provided by Customer:	**Verified during M&V:**
Type and size of unit installed	Yes
Home heating and cooling type for HP water heaters	Yes

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Gas Assumptions:
The baseline water heater is 40 gallon capacity with an Efficiency Factor (EF) of 59%.
The average baseline product cost is based on the cost from RS MEANS Repair and Remodeling Cost Data 2007

Electric Assumptions:
Typical hot water energy requirement = 4,395 kWh/yr with no losses.
EF for new heat pump water heater = 2.19
EF for baseline electric water heater = .91

Changes From 2011:
No changes

Building Characteristics for Prototype Home Used for Gas Modeling:
Single Family
Two story (Reference 3)
3 bedroom 2 bathroom (Reference 3)
2000 square feet (Reference 3)
Basement foundation (Reference 3)
HVAC:
heating - gas furnace 78 AFUE (55.9 kBtu unit required) - 85% of homes have gas heating, and 78% of which are forced air furnaces (Reference 2)
cooling - 59% have Central Air Conditioning model required a 2.5 ton unit to meet the cooling load (Reference 2)
air handler is in the basement and supply ducts and return ducts are assumed to be in majority interior space
Windows:
61% of homes have double pane windows (Reference 2)
double pane low-E are standard (Reference 4)
Model assumes 15% of wall area glazing
applied a u-factor of 0.53 (average between clear glass double pane and low-E)
Insulation Levels:
Existing Ceiling Insulation: R-19 (Reference 4)
Existing Wall Insulation: R-11 (Reference 4)
Basement Assumptions
Assumed basement walls to have R-11 insulation
Basement is considered finished space but not conditioned
The air handler is located in the basement
Some homes will have smaller sections of the basement conditioned – maybe a bonus room etc, however this cannot be easily modeled in EnergyGauge

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Appliances (Reference 2)
85% have dishwashers
74% electric ranges
88% and 89% have clothes washer and dryer (electric)
85% water heating is gas - model used a 40 gallon storage tank
68% of homes have ceiling fans

Incremental Cost Assumption
This measure is identified as a replacement on burnout; therefore, the only incremental cost incurred is the increased cost of the more efficient technology. Since the water heater will be replaced regardless of the efficiency rating of the unit, the labor and equipment rental costs do not apply.

Average Customer Energy Consumption: (Reference 2)
kWh annually: 9,000 roughly for a 2,000 square foot home
Therms annually: 835

References:

1. California Energy Commission's Database for Energy Efficient Resources (DEER) http//www.energy.ca.gov/deer
(Does not include labor of equipment rental fees as this measure is considered a replace on burnout)
2. 2006 Residential Energy Use Colorado Service Area - Xcel Market Research
3. American Housing Survey for Denver - US Census Bureau
4. Xcel Energy CO DSM Potential 2006 - prepared by KEMA
5. California Measurement Advisory Committee (CALMAC) Protocols, Appendix F.
6. Howard Geller
7. 2008 Xcel CO Residential Home Use Study
8. Water heater analysis on ENERGY STAR website ".. ENERGY STAR Residential Water Heaters -Final Criterial Analysis";
http://www.energystar.gov/ia/partners/prod_development/new_specs/downloads/water_heaters/WaterHeaterAnalysis_Final.pdf

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Program: Colorado 2012 and 2013 Residential Saver's Switch New A/C

Prescriptive rebates will be offered to customers who install a Saver's Switch on their AC system.

Calculations:

Electrical Demand Savings (Customer kW)	= Average kW per Unit
Electrical Energy Savings (Customer kWh)	= Average kW per Unit x Full Load Hours of Operation
Generator kWh	= Customer kWh / (1-LF)
Generator kW	= Customer kW x CF / (1-LF)
Peak Coincident kW at the Customer (PC_KW_CUST)	= Customer kW x CF

Variables:

Average kW per Unit	= Average kW per AC Unit = 3.00 kW/unit. Based on analysis of metered data for actual historical Residential Saver's Switch customers.
Hours of Operation	= Hours of Operation = 10.73 for AC. The typical hours of operation per year that a Switch achieves energy savings at the average kW per unit by controlling an AC. Based on analysis of metered data for actual historical Residential Saver's Switch customers.
CF	Coincidence Factor = Percentage of the Average kW per Unit savings that occur during the annual hour of system peak. = 32.92% for AC only. Based on analysis of metered data for actual historical Residential Saver's Switch customers.
Measure Life	= Length of time the switch will be operational = 15 years
LF	Loss Factor = 7.70%, the percentage loss of electricity as it flows from the power plant to the customer during peak system demand. (Transmission Distribution Loss Factor)
NTG	Net-to-Gross factor for Saver's Switch will be 100% as customers would not have the ability to install a switch without the program.

Provided by Customer:
Number of units with switch installed.

Verified during M&V:
Yes

References
2010 Xcel Energy Colorado Residential Saver's Switch Program Impact Evaluation Report.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Energy Savings Kit

A package of home energy efficiency measures in a kit that will be distributed to low-income customers. Each participant receives a kit containing a high-efficiency showerhead, two high efficiency sink aerators (1.0 and 1.5 GPM), and eight compact fluorescent bulbs (4 - 13 W and 4 - 20 W CFLs).

Algorithms:

CFL Electric Energy Savings (Customer kWh)	= (kW_Base - kW_EE) x Hr use
CFL Electric Demand Savings (Customer kW)	= (kW_Base - kW_EE)
Showerhead Energy Savings (Customer kWh)	= ((HW GPY_Saved x Delta_T x 8.33) / (3,412) / HGE) = 252 kWh/showerhead
Showerhead Demand Savings (Customer kW)	= 0 kW
Aerator (1.5 GPM) Energy Savings (Cust kWh)	= ((HW GPY_Saved x Delta_T x 8.33) / (3412) / HGE) = 185 kWh/aerator
Aerator (1.5 GPM) Demand Savings (Cust kW)	= 0 kW
Aerator (1.0 GPM) Energy Savings (Cust kWh)	= ((HW GPY_Saved x Delta_T x 8.33) / (3412) / HGE) = 285 kWh/aerator
Aerator (1.0 GPM) Demand Savings (Cust kW)	= 0 kW
Showerhead Gas Savings (Customer Dth)	= ((HW GPY_Saved x Delta_T x 8.33) / HGE / 1,000,000) = 1.31 Dth/showerhead
Aerator (1.5 GPM) Gas Savings (Customer Dth)	= ((HW GPY_Saved x Delta_T x 8.33) / HGE / 1,000,000) = 0.69 Dth/aerator
Aerator (1.0 GPM) Gas Savings (Customer Dth)	= ((HW GPY_Saved x Delta_T x 8.33) / HGE / 1,000,000) = 0.98 Dth/aerator
Gas Savings (Gross Dth)	= Customer Dth x (# kits distributed)
Gas Savings (net Dth)	= Gross Dth x NTG
Electrical Energy Savings (Gross Generator kWh)	= (Customer kWh * number of kits) / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= (Customer kW * number of kits)*CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG x Install Rate
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG x Install Rate

Variables:

Hrs	= Annual operational hours per year of the fixture. We will use 1,141 hours which represents the average operating hours for the first 8 CFLs installed in a house. (Reference 1)
CF	= Coincidence Factor, the probability that peak demand of the lights will coincide with peak utility system demand. 0.08 will be used for CFLs (Ref 2) A CF of 0.0 will be used for shower heads and aerators.
kW_EE	= Bulb wattage per supplied CFLs = 4 - 13W and 4 - 20W.
kW_Base	= Bulb wattage replaced by supplied CFLs = dictated by federal minimum standards.
GPY_Saved	= Gallons per year of hot water saved with high-efficiency showerhead assuming 65% of water flow is hot water. Showerhead = 1,258 gallons per year per shower, Aerator (1.5 GPM) = 653 gallons; aerator (1.0 GPM) = 1,119 gallons.
Delta_T	= Change in temperature of water from incoming water temperature to water heater temperature setting. Delta_T is 74 degrees F. (Reference 5)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

HGE	= Heat generation efficiency based on steady-state water heater efficiency. Used value of 0.90 for electric and 0.59 for Gas. (Reference 3)
Incremental Costs	= costs provided by vendor;.
Transmission Distribution Loss Factor (TDLF)	Transmission Distribution Loss Factor = 7.7%, the percentage loss of electricity as it flows from the power plant to the customer.
Net-to-Gross Factor (NTG)	= We will use 100% as these kits would not be available without the product.
Install Rate	= We will use 85% for CFLs and 65% for showerheads and aerators.
Non-Energy O&M savings	= Operation and Maintenance savings due top water savings = $9.33 per showerhead, $4.84 per 1.5 gpm aerator, and $8.30 per 1.0 gpm aerator.
Energy O&M savings	= Savings attributed to savings of fuel not served by Xcel Energy. Varies by customer depending on customer type and water heating fuel.

Measure:	**Measure Life (yrs)**	
	2012	**2013**
CFLs (8 bulbs)	6.71	6.32
Shower head	6 years (Reference 6)	6 years (Reference 6)
Faucet aerators (2 aerators)	5 years (Reference 6)	5 years (Reference 6)

Assumptions:

Savings shown above include homes with both electric and gas water heaters. In Colorado, 85% of homes have gas water heaters and 15% of homes have electric water heaters. We will use 85% of the gas savings and 15% of the electric savings shown above for showerheads and aerators (Reference

Provided by Customer:	**Verified during M&V:**
Number of kits distributed	Yes
Number of CFLs installed	Yes
Showerhead Installed	Yes
Number of aerators installed	Yes

Changes From 2011:

Added 2 20W CFLs

References

1. US DOE US Lighting Market Characterization Stud 2002
2. Composite Wattages, Operating Hours and Coincidence from CFL METERING STUDY FINAL REPORT, Prepared for: Pacific Gas & Electric Company, San Diego Gas & Electric Company, Southern California Edison Company, 2005
3. Department of Energy Domestic Hot Water Appliance Calculator
4. Japanese study: "The effects of variation in body temperature on the preferred water temperature and flow rate during showering" Authors: Tadakatsu Ohnaka, Yutaka Tochihara, Yumiko Watanabe. Affiliations: a) Department of Physiological Hygiene, The Institute of Public Health, Minato-ku, Tokyo, Japan; b) Faculty of Home Economics, Jissen Women's University, Hino, Tokyo, Japan.
5. Handbook of Water Use and Conservation, Denver Water Conservation
6. CALMAC; California Measurement Advisory Committee.
7. 2006 Residential energy use Colorado service area - Xcel Energy Market Research

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Low Income Multi-Family Weatherization

Low Income service agency may apply for a grant to improve the natural gas and electric efficiency measures of low income multi-family housing units and common spaces/systems.

Algorithms:

Savings will be determined by results of an engineering audit of potential energy savings for the facility and living units. Calculations may include standard energy calculations or hourly energy modeling with recognized software packages. Savings for CFL lighting, refrigerator upgrades or evaporative coolers installed in living units will be deemed per other products for low income participants or prescriptive products.

We will use 100% for the Net-to-Gross factor for the Low Income Multi-Family Weatherization product.

Changes from 2011:
No changes.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Low Income Non-Profit Weatherization

Low Income service agency may apply for a grant to improve the natural gas and electric efficiency measures of low income non-proft housing units and common spaces/systems.

Algorithms:

Savings will be determined by results of an engineering audit of potential energy savings for the facility and living units. Calculations may include standard energy calculations or hourly energy modeling with recognized software packages.

We will use 100% for the Net-to-Gross factor for the Low Income Non-Profit Weatherization product.

Changes from 2011:
No changes.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: Low Income Single Family Weatherization Rebates

Residential low-income natural gas and electric customers can have energy efficiency measures performed at no cost to them.

Algorithms:

Ceiling insulation from R-11 to R-38 savings for customer with gas heat (Gross Dth)	Energy savings for the ceiling insulation were calculated in REM/Rate using a baseline home model calibrated to home size and characteristics for the Denver area (see below for characteristics) assuming 78% AFUE gas heat. Savings is 7.9 Dth.
Ceiling insulation from R-11 to R-38 energy savings for customer with electric heat (Customer kWh)	Energy savings for the ceiling insulation were calculated in REM/Rate using a baseline home model calibrated to home size and characteristics for the Denver area (see below for characteristics.) assuming 98% efficient electric heat. Savings is 1,843 kWh/home.
Ceiling insulation from R-11 to R-38 demand savings for customer with electric heat (Customer kW)	Energy savings for the ceiling insulation were calculated in REM/Rate using a baseline home model calibrated to home size and characteristics for the Denver area (see below for characteristics.) assuming 98% efficient electric heat. Savings is 0.867 kW/home.
Wall insulation from R-3 to R-11savings for customer with gas heat (Gross Dth)	Energy savings for the wall insulation were calculated in REM/Rate using a baseline home model calibrated to home size and characteristics for the Denver area (see below for characteristics) assuming 78% AFUE gas heat. Savings is 18.7 Dth.
Wall insulation from R-3 to R-11 energy savings for customer with electric heat (Customer kWh)	Energy savings for the wall insulation were calculated in REM/Rate using a baseline home model calibrated to home size and characteristics for the Denver area (see below for characteristics.) assuming 98% efficient electric heat. Savings is 4,362 kWh/home.
Wall insulation from R-3 to R-11 demand savings for customer with electric heat (Customer kW)	Energy savings for the wall insulation were calculated in REM/Rate using a baseline home model calibrated to home size and characteristics for the Denver area (see below for characteristics.) assuming 98% efficient electric heat. Savings is 2.052 kW/home.
New HE Furnace AFUE 92% natural gas savings (Gross Dth)	Energy savings for the gas furnace were calculated in REM/Rate using a baseline home model calibrated to home size and characteristics for the Denver area (see below for characteristics.) Savings is 11.1 Dth.
Refrigerator replacement electric energy savings (Customer kWh) and demand savings (Customer KW)	Energy savings for the refrigerator were based on the Energy Star Refrigerator Savings Calculator: http://www.energystar.gov/index.cfm?c=refrig.pr_refrigerators. Savings is 584 kWh and 0.08 kW.
16 CFLs electric energy savings (Customer kWh) and electric demand savings (Customer kW)	Energy and demand savings and annual hours of operation for compact fluorescent lamps are based on data and calculations derived from the 2002 US Lighting Market Characterization performed for the Department of Energy in 2002. Energy savings are 752 kWh and demand savings are 0.74 kW.
Net Dth	= Gross Dth x NTG
Electrical Energy Savings (Gross Generator k	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWI	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kV	= Gross Generator kW x NTG

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Variables:

NTG	Net-to-Gross Factor = We will use 100%.
O&M savings	Operation and Maintenance savings = We will assume no O&M savings.
TDLF	Transmission Distribution Loss Factor = 7.7%, the percentage loss of electricity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Filing SRD-2

Type of measure:	Measure life:	Incremental cost:	Coincidence Factor:
Ceiling insulation	20 years (Reference 1)	$715 (Reference 6)	0%
Wall insulation	20 years (Reference 1)	$670 (Reference 6)	0%
HE furnace AFUE 92%	18 years (Reference 12)	$623 (Reference 13)	NA
Refrigerator replacement	7.3 years (Reference 14)	$141 (Reference 3)	100% (by definition per calc)
CFLs	7.77 years in 2012 and 7.39 in 2013 (Reference 9, adjusted to reflect phaseout of incandescent bulbs)	$44 (Reference 10)	8% (Reference 9)

Provided by Customer:
Type of measures implemented

Verified during M&V:
Yes

Changes From 2011:
No changes.

Assumptions:

The energy savings calculated above represent the savings for a house with either electric or gas heat. In Colorado, 93% of houses use gas for heat and 7% use electricity. For the insulation measures, we will take credit for 93% of the gas savings and 7% of the electric savings for each house that is completed (Reference 17.)

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Building Characteristics for Baseline Home Used for Modeling:

Single Family
One story (Reference 3)
2 bedroom 1 bathroom (Reference 3)
961 square feet (Reference 3)
Crawlspace foundation (Reference 3)
HVAC:
- heating - gas furnace 78 AFUE (Reference 3)
- no cooling - 25% have evaporative coolers (Reference 3)
- air handler is in the crawlspace and supply ducts and return ducts are assumed to be in majority interior space

Windows:
- SHGC = 0.75
- U-factor = 1.27

Insulation Levels:

Existing Ceiling Insulation: R-11 (Reference 4)
Existing Wall Insulation: R-3 (Reference 4)

Crawlspace Assumptions

Assumed crawlspace walls do not have insulation
The air handler is located in the crawlspace
ACH = 0.8 and duct leakage is 25%

Appliances (Reference 2)

85% have dishwashers
74% electric ranges
88% and 89% have clothes washer and dryer (electric)
85% water heating is gas - model used a 40 gallon storage tank
68% of homes have ceiling fans

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

References:

1. California Measurement Advisory Committee (CALMAC) Protocols, Appendix F (www.calmac.org/events/APX_F.pdf).
2. 2006 Residential Energy Use Colorado Service Area - Xcel Market Research
3. Colorado Governor's Energy Office (GEO)
4. Xcel Energy CO DSM Potential 2006 - prepared by Kema
5. National Energy Efficiency Best Practices Study - Residential Single-Family Comprehensive Weatherization Best Practices Report from December 2004.
6. RS Means Repair and Remodeling 2007 at a cost of $0.028 per square foot per increase in R-value.
7. National Energy Audit Tool (NEAT) and Frontier estimates.
8. EEBP web site - Tacoma Residential Weatherization program.
9. US Lighting Market Characterization Study performed for the Department of Energy in 2002
10. MEEA/ES Change A Light campaign info
11. Xcel Energy estimate
12. Draft Technical Support Document: Energy Conservation Standards for Residential Furnaces and Boilers, Efficiency Standards for Consumer Prepared for US DOE, September 2006
13. California Energy Commission's Database for Energy Efficient Resources (DEER)
14. www.energystar.gov
15. DOE 2007
16. Appliance Magazine, September 2007
17. 2006 Residential energy use Colorado service area - Xcel Energy Market Research

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: CO Energy Feedback Pilot

Pilot will test energy use feedback to customer groups and evaluate if customers use less energy if provided feedback, how much less and for how long will they continue to save. Pilot will test both gas and electric residential customers.

Algorithms:

Electrical Energy Savings (Customer kWh)	= (Group_Consumption - Group_Rebate_Product_Participation)Control_Group - (Group_Consumption - Group_Rebate_Product_Participation)Test Group, kWh
Electrical Demand Savings (Customer kW)	= Customer kWh / 8760 (Currently exploring methodologies to establish appropriate demand saving for similar products)
Electrical Energy Savings (Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Generator kW)	= Customer kW x CF / (1-TDLF)
Natural Gas Energy Savings (Customer Dth)	= (Group_Consumption - Group_Rebate_Product_Participation)Control_Group - (Group_Consumption - Group_Rebate_Product_Participation)Test Group, Dth

Variables:

Group_A	Test group of 40,000 of electric and gas participating customers receiving periodic paper reports of feedback on their energy use.
Group_B	Test group of 10,000 of electric and gas participating customers receiving periodic paper reports and web feedback on their energy use.
Control_Group	Uninformed random sample 50,000 gas & electric customers receiving no specific information or treatment from this pilot.
Group_Consumption	Gross consumption for each group (A, B or Control), kWh and Dth
Group_Rebate_Product_Participation	Energy savings generated by participation in our rebate products for each group, kWh and Dth. Rebated product participation from other products, (e.g.new furnace), are savings that will be deducted from the EFP results. It is deducted from all groups first to avoid double counting the rebate product savings in the Control Group. DSM Product participation from other Public Service DSM products will come from Company database, kWh and Dth.

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Note: Calculation methodology	Calculations of energy use are in units of average energy use/customer-yr
TDLF	= Transmission Distribution Loss Factor = 7.70%; the percentage of loss of electicity as it flows from the power plant to the customer, calculated using factors from Enhanced DSM Study SRD-2.
CF	= Coincidence Factor = 14%; probability that conservative electric behaviors will occur during the peak period hours.
NTG	Net to Gross = 100%
Total number of hours in one year	= 8760
Measure Life	= Measure life is assumed to be 1.0 years since there is no equipment purchase - just behavior changes, but will look and see how many years savings persists into the three year study, and may adjust this value in future filings.
O&M savings	= Operation and Maintenance savings are assumed to be zero.

Needed from Customer/Vendor/Administrator for Calculations:
Customer survey about purchases of energy efficient appliances / equipment

Sample group participation in other DSM products and resulting energy conservation claimed from participation.

DSM Product participation from other Public Service DSM products from Company database.
Results from vendor for both Control group and Test Groups

Changes from 2011
No changes

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: ISOC

Participants receive a monthly discount on their demand charges in return for reducing electric loads when notified by Xcel Energy.

Calculations:

Electrical Energy Savings (Customer kWh)	= Average kW per Unit x Full Load Hours of Operation
Electrical Demand Savings (Customer kW)	= Average kW per Unit
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

Average kW per customer	= Average kW per customer = 2714.39 kW (1)
Hours of Operation per year	= 6, Hours of Operation that a customer achieves energy savings by controlling their electric load during a typical year (2).
CF	Coincidence Factor = The probability that peak demand of the measure will coincide with peak utility system demand. Percentage of 61.57%
Measure Life	= Length of contract period = 3 years
TDLF	Transmission-Distribution Loss Factor = 6.50%, the percentage loss of electricity as it flows from the power plant to the customer during peak system demand. (Transmission Distribution Loss Factor for Demand)
NTG	Net-to-Gross factor will be 100% as customers would not have the ability to install a DR device without the program.

References

(1) Load Forecast
(2) Control Period history

DEEMED SAVINGS TECHNICAL ASSUMPTIONS

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DEEMED SAVINGS TECHNICAL ASSUMPTIONS

Product: EnerNOC

Participants receive a monthly discount on their demand charges in return for reducing electric loads when notified by Xcel Energy.

Calculations:

Electrical Energy Savings (Customer kWh)	= Average kW per Unit x Full Load Hours of Operation
Electrical Demand Savings (Customer kW)	= Average kW per Unit
Electrical Energy Savings (Gross Generator kWh)	= Customer kWh / (1-TDLF)
Electrical Demand Savings (Gross Generator kW)	= Customer kW x CF / (1-TDLF)
Electrical Energy Savings (Net Generator kWh)	= Gross Generator kWh x NTG
Electrical Demand Savings (Net Generator kW)	= Gross Generator kW x NTG

Variables:

Average kW per customer	= Average kW per customer = 251.43 kW (1)
Hours of Operation per year	= 1, Hours of Operation that a customer achieves energy savings by controlling their electric load during a typical year (2).
CF	Coincidence Factor = The probability that peak demand of the measure will coincide with peak utility system demand. Percentage of 57.35%
Measure Life	= Length of contract period = 3 years
TDLF	Transmission-Distribution Loss Factor = 6.50%, the percentage loss of electricity as it flows from the power plant to the customer during peak system demand. (Transmission Distribution Loss Factor for Demand)
NTG	Net-to-Gross factor will be 100% as customers would not have the ability to install a DR device without the program.

References

(1) Load Forecast

(2) Control Period history

DEEMED SAVINGS TECHNICAL ASSUMPTIONS